# Railway Age

TRANSPORTATION LIBRARY

## We Must Not Let Them Down-

GENERAL MOTORS LOCOMOTIVES

5TH WAR LOAN

★ VICTORY IS OUR BUSINESS ★

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION LA GRANGE, ILLINOIS, U.S.A.

# PORTER FIRELESS LOCOMOTIVES

NO FIRE · NO SMOKE · NO NOISE

ARMY E NAVY

The most economical and trouble-free locomotive ever built

Economical because it runs on excess steam from your plant boilers, because it can be operated by unskilled, low-cost labor, and because it requires very little maintenance. Trouble-free because of the simplicity of its construction. There is no boiler, fire-box, electric motor, generator, or internal combustion engine on a Porter Fireless. There are few working parts, and the reservoir never needs replacement. Actual experience shows that users of Porter Fireless Locomotives save up to 50% of their switching costs.

**LOCOMOTIVE DIVISION:** Diesel, Diesel-Electric, Electric, Steam, and Fireless Steam Locomotives.

**MT. VERNON CAR DIVISION:** Complete Line of Freight Cars

**PROCESS EQUIPMENT DIVISION:** Complete Line of Chemical, Food, and Petroleum Refinery Equipment.

**QUIMBY PUMP DIVISION:** Screw, Rotex, Centrifugal, Chemical Pumps.

**ORDNANCE DIVISION:** Projectiles, Heavy Forgings, Breech Blocks, Winches.

**H. K. PORTER COMPANY, Inc.**
PITTSBURGH, PENNSYLVANIA

*FACTORIES:*
PITTSBURGH, PA. • BLAIRSVILLE, PA. • MT. VERNON, ILL.
NEWARK, N. J. • NEW BRUNSWICK, N. J.


Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 116, No. 25.

# Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered in U. S. Patent Office

Vol. 116 June 17, 1944 No. 25



PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y. AND 105 W. ADAMS STREET CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING. CLEVELAND 13: TERMINAL TOWER SEATTLE 1: 1033 HENRY BUILDING. SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806. LOS ANGELES 14: 530 WEST 6th STREET.

SAMUEL O. DUNN, CHAIRMAN. HENRY LEE, PRESIDENT. ROY V. WRIGHT, VICE-PRESIDENT AND SECRETARY. F. H. THOMPSON, E. T. HOWSON, F. C. KOCH, R. E. THAYER, H. A. MORRISON, J. G. LYNE, H. E. McCANDLESS, VICE-PRESIDENTS. J. T. DeMOTT, TREASURER.

SAMUEL O. DUNN, EDITOR. ROY V. WRIGHT, MANAGING EDITOR. ELMER T. HOWSON, WESTERN EDITOR. JAMES G. LYNE, ASST. TO EDITOR. C. B. PECK. ALFRED G. OEHLER. E. L. WOODWARD. J. H. DUNN. R. A. DOSTER. H. C. WILCOX. NEAL D. HOWARD. CHARLES LAYNG. GEORGE E. BOYD. WALTER J. TAFT. M. R. DICK. JOHN S. VREELAND. C. MILES BURPEE. ARTHUR J. McGINNIS. J. L. STOVER. C. B. TAVENNER. H. E. MEASON. LIBRARIAN: EDITH C. STONE. EDITORIAL ASSISTANT: BETTY KETCHUM.

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PAPERS (A. B. P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.).

SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR $6.00; 2 YEARS, $10.00; FOREIGN COUNTRIES, NOT INCLUDING DAILY EDITIONS: 1 YEAR, $8.00; 2 YEARS, $14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET.


## *In This Issue*


Page

***Obsolete Locomotives—Why Keep Them Alive?*** ..... ***1159***

Every mile that is run by a modern locomotive serves emphatically to prove what a serious economic error it is to perpetuate the existence of a 30-year-old unit.

***Stronger Viaducts for War Traffic*** ..... ***1167***

With the reinforcing of girder spans in three steel viaducts and the strengthening of towers in two others—a project embracing nearly 5,000 ft. of such structures—it is now possible for the Nickel Plate to open 250 more miles of its main track to its heaviest locomotives.

***Here's a "Managerial Revolution"*** ..... ***1170***

In the concluding installment of this article is discussed the effect of shipper collaboration in the railroads' preparation fully to meet the rapidly accelerated demands for transportation, beginning in 1939. It points to customer co-operation "without parallel."

**EDITORIALS**

Confiscatory Plans of Reorganization ..... 1147
Trucks for Work Equipment Maintenance ..... 1148
Light Freight Cars for High-Speed Service ..... 1148
Standards of Comfort for Railroad Employees ..... 1149

**GENERAL ARTICLES**

A. A. R. Postpones Meetings of Purchasing and Stores and Mechanical Divisions ..... 1150
Looking Ahead in Forest Products ..... 1152
Materials Control Plan Approved, by Walter C. Skuce ..... 1154
How the Erie Reclaims Couplers ..... 1156
Obsolete Locomotives—Why Keep Them Alive? ..... 1159
Stronger Viaducts for War Traffic ..... 1167
Here's a "Managerial Revolution," by J. G. Lyne ..... 1170
Rock Island Installs Cab Signals and C. T. C. ..... 1173

**CAR AND LOCOMOTIVE EQUIPMENT DEVELOPMENTS** ..... **1161**

**RAILROADS-IN-WAR NEWS** ..... **1178**

**GENERAL NEWS** ..... **1181**


*The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service*

★


***PRINTED IN U. S. A.***

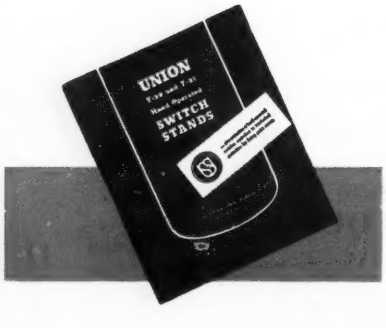
"UNION" T-20 and T-21
Hand-operated
SWITCH STANDS
PIPE LINE CONNECTION TO DERAIL
ELECTRIC LOCK
SELF-CONTAINED CIRCUIT CONTROLLER
SWITCH OPERATING ROD LOCKED IN NORMAL OR REVERSE POSITIONS
STANDARD LOCKING ROD LOCKED IN NORMAL POSITION
POINT DETECTION INDEPENDENT OF LOCK ROD

## —*provide maximum protection at non-interlocked switches!*

HEAVY wartime traffic has focused attention upon the safety provided for main line train movements over hand-operated switches—especially where high-speed facing point moves are involved.

Incorporating features of operation provided by power operated switch machines, the "Union" T-20 and T-21 hand-operated Switch Stands are expertly designed and ruggedly constructed for main line heavy duty service. For facing moves, they give protection at hand-operated switches in their normal position equivalent to interlocking protection. They are universal in application and permit the convenient and effective application of electric locks.

By installing these rugged, modern switch and lock movements, you provide maximum protection and safety at your main line hand-operated switches.




The "Union" T-20 and T-21 hand-operated Switch Stands are identical except that the T-21 has a built-in target drive mechanism. Practically all of their parts are interchangeable. For complete details see our Bulletin 156.

**UNION SWITCH & SIGNAL COMPANY**

SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

# The Week at a Glance

**GUILLOTINE FOR EQUITIES:** Where is the justice or the social advantage (unless to promote the demise of private enterprise be deemed such) in the kind of railroad reorganizations the I. C. C. is insisting upon—an anti-investor blitz in which the Supreme Court acquiesces? Such, in effect, is the question raised in the leading editorial herein—which cites the recent condemnation of the Commission's position by the House judiciary committee. The Commission, in reorganizations, is ignoring the investment in the properties, their physical valuation, and both pre-depression and post-depression earnings—and is insisting that capitalization be based primarily on earnings during history's worst depression. How does the I. C. C. expect that investors will be encouraged to put up funds necessary to establish and maintain a high level of post-war employment, when it rushes them off to slaughter like this?

●

**OLD ENGINES DON'T PAY:** The situation and the outlook in the field of motive power are reviewed in an article in this issue, which presents some rather startling figures on the economy and availability of the newer locomotives (steam as well as Diesel); and the conclusion is reached that the present job of railroading just couldn't be done except for the primary reliance being placed on this new power. The economy of the practice of keeping old engines around "just in case" is critically examined, and a negative opinion is reached. When the age of 30 years is attained, it is in effect asserted, the iron horse is a dead horse, and merits decent (i. e., prompt) burial.

●

**FORMULA FOR MIRACLES:** How the democratic procedures of the railroads' car service machinery, working in close harmony with independent, sympathetic, and whole-heartedly co-operating shippers' organizations, have perfected a formula for car and traffic control that has worked unending miracles of transportation performance since Pearl Harbor—this is the theme further developed in the second part of the article outlining this productive collaborative technique which appears this week on page 1170. Again the key point of this managerial discovery—its novel combination of centralized control and decentralized responsibility—is emphasized through its demonstrated adaptability to unprecedented conditions.

●

**REPEAL DELAYED:** With its members already acting under the shadow of the national political conventions and the Congressional holiday which accompanies them, the Senate's action on the Boren land-grant repeal bill promises to be delayed until late in the summer, at least. The general support for repeal which was evinced before the House committee by shippers, carriers, the railway unions, and the Interstate Commerce Commission was again expressed in the Senate hearings, this week's news story points out, but some of the government agencies that have been ostensible beneficiaries of the reductions, or that have cloaked themselves in the garb of defenders of the public interest, voiced opposing arguments.

●

**SERIATE REINFORCEMENT:** An article on page 1167 tells how the Nickel Plate was able under wartime conditions to strengthen viaducts limiting locomotive operation on the easterly portion of its main line by a process of serial substitution, which involved taking out one girder span, replacing it with a span previously reinforced, strengthening the span removed, and then reinserting it in place of another span, on which the process was then repeated.

●

**INTANGIBLE GRIEVANCES:** Advocating a consistent managerial policy which would insist on maintenance of adequate minimum standards of convenience and sanitation and comfort where men work and where they rest—not only here and there, but generally over the railroad—an editorial this week points out that underemphasis on such considerations may explain, indirectly, demands for punitive pay or arbitrary rules where the real grievance lies in unpalatable working conditions.

●

**WHAT PRICE "PARITY"?:** Arguments began this week in Washington in the long-drawn-out "uniform" classification and class rate proceedings, with a ten-day session indicated. As reported in the news pages, the opening presentation on behalf of the southern railroads once more pointed out some of the fallacies in the "parity" proponents' demagogic appeals to the citizenry of the South—appeals that ignore evidence showing that section to be advancing industrially more rapidly, relatively, than the rest of the country.

●

**PIONEERING, 1944 MODEL:** Where lie the "initiative" and "enterprise" in air transportation—are they private or governmental? The question is prompted by the announcement, not by the airlines but by the Civil Aeronautics Board, of a score of postwar "global" commercial air routes. In the old tradition of American business before it accepted politics as a partner to pay its bills and defend it from competition, who ever heard of a government bureau taking over from business leaders the function of locating and planning new commercial ventures? Yet this has happened in the very business which, above all others, presents itself as the embodiment of youthful aggressiveness and pioneering vigor. As Shakespeare said, when two men ride a horse, one must ride behind.

●

**LUMBER OUTLOOK:** Just what to expect in the coming months in the way of a supply of lumber is a widely-important question considered in an article herein by our purchases and stores editor. Rumors that tie production might be halted to divert productive effort to other classes of wood products are judged to be ill-founded.

**B. I. R. CLINGS TO LIFE:** Those resolute purveyors of opinion, Messrs. Childe and Webb of the Board of Investigation & Research, are selflessly tendering their services to the nation for another four years after September 18—when their names will vanish from the public payroll, unless a neglectful citizenry is meantime aroused to their merits. The two Board members revealed their readiness to continue under the yoke of their official labors at a hearing (reported in the news pages herein) on a bill to extend the Board's life for another 4-year term—a proposal which has aroused little interest, even of opposition, on the part of anybody except a few interterritorial rate politicians. Not much evidence has come to light that the Board has evoked any very widespread esteem on the part of others, to parallel that which it appears to cherish in its own behalf.

●

**RECLAIMING COUPLERS:** The welding and "normalizing" of damaged cast steel couplers—returning them to service in such good shape that they pass all the physical tests to which new couplers are subjected—is a war-time innovation which looks as if it may carry over into standard peace-time reclamation practice. Such is the conclusion reached in an article herein which describes the plant the Erie has installed at Meadville for this work, and tells how it operates. Not only whole couplers, but parts thereof, and truck bolsters and side frames, are being rejuvenated by the new process.

●

**HOW TO GET LOW RATES:** The present efficiency of the railroads—achieved by close co-operation of their patrons—is not only providing adequate service to war traffic, impossible under easy-going prewar practices; but it is also saving money to shippers. Alvin Vogtle has brought out this important consideration in a recent address, reported in our news pages. He reminds us that the railroads are practically the only large industry which has not increased its prices, despite heavy increases in labor and other costs; and he hopes that carriers and customers will continue their collaboration after the war. It should help the shippers in their freight bills, and the carriers in their earnings and in dealing with their competition.

●

**BETWEEN THE LINES:** The politely formal letters effecting Dr. Leiserson's resignation from the Mediation Board and the Railway Labor Panel are set forth in the news columns. While documentary evidence is lacking, the belief seems to be fairly widespread that the N.M.B. head has quit government service with the conviction that whatever prospect there may have been for the Board to become an effective instrument for the peaceable settlement of railroad wage controversies was nullified last December, when the President suddenly pushed aside its services and undertook personal "arbitration" of pending disputes which the Board reportedly was then well on the way to resolving.

# Symbols

## FREEDOM

The Long Rifle is the symbol of the liberty for which our forefathers fought and died—even as men are doing today — so that Americans could remain free to choose their own way of life, to enjoy equal justice and opportunity.

## HARD WORK

The Plowshare is a symbol of the fertile earth we have inherited and of the labor by which we earn our bread and support our hard-won freedom. It is a symbol, too, of production — enough production to satisfy all our needs.

## THRIFT

U. S. War Bonds are symbols of the thrift through which Americans have always put aside part of the fruit of their labor to build their homes and businesses and provide education and security for themselves and for their children.

There will never be a substitute for the *hard work, thrift* and *freedom* which have produced this great nation and all the things we hold dear. Today, the winning of the war — and the preservation of our freedom — depends upon our ability to work hard and save in every way to the limits of our endurance. Tomorrow, we must use these *same* means to build a better life.

At Okonite's three plants, two thousand men and women are hard at work devoting *their* labor to the production of electrical wires and cables for use in power transmission, communications and control—on both the battle and production fronts. And, in addition to any other savings, more than 10% of their earnings are being laid aside for the future through steady investments in U. S. War Bonds.

## THE OKONITE COMPANY

PASSAIC, NEW JERSEY

OKONITE
SINCE 1878

RAILWAY AGE

# Confiscatory Plans of Reorganization

The House Judiciary Committee in a recent report condemned the Interstate Commerce Commission and the Supreme Court for "causing the destruction of hundreds of millions of dollars of railroad securities." The reference was to the policy of the Commission in adopting, and the Supreme Court in approving, plans of reorganization for bankrupt roads that wipe out most or all of their stock and often parts of their bonds.

*Railway Age* repeatedly has condemned this policy, and in an editorial in its issue of September 10, 1940, showed at length why it was based on an untenable assumption, would lead to confiscation, and should be attacked and opposed by all desiring to maintain private enterprise in this country, and especially private enterprise in the railroad industry.

In the twenty years ending with 1929 the railroads earned an annual average of $1,164 million "total income" available for fixed charges, and an annual average of $535 million net income (after fixed charges) available for dividends. In the five depression years 1931-1935, inclusive, they earned an annual average of only $685 million "total income" and of only $19 million net income.

The Commission based its estimates of the future earnings of the bankrupt roads principally on these depression earnings. For example, the Chicago & North Western in the five years 1926-1930, inclusive, had had average "total income" of $25 million and average net income of $12 million; but the Commission decided it had a "normal expectancy" of less than $15 million "total income," and adopted a plan which reduced its fixed charges from $16½ million to only $3 1/3 million and wiped out all of its $181 million of preferred and common stock. And now, in the five years 1939-1943, inclusive, the nation's railways have earned an annual average of $1,200 million "total income" and of $523 million net income—approximately as much as they averaged in the twenty years ending with 1929. Only two of these five years were war years; and the "total income" and net income earned in 1942 and 1943 were achieved after the payment of hugely increased federal taxes.

The Commission's plans of reorganization were ostensibly based on "normal expectancy" as regards earnings; but actually (1) they were, as already stated, based on depression earnings, (2) disregarded pre-depression earnings and (3) disregarded earning *capacity* as it had been demonstrated before the depression and has now been demonstrated since the depression. There was no basis for using depression earnings in estimating future earnings unless it was the assumption that the depression was going to be permanent; and there was nothing in American history to justify such an assumption.

In addition to ignoring pre-depression earnings and demonstrated earning capacity, the Commission, in adopting its reorganization plans, ignored both the investment in the bankrupt roads as it had long been regularly reported to it, and the Commission's own valuations of their physical properties.

Some of the reorganizations have been consummated, and in such cases it is too late to save the investment of the bondholders and stockholders whose securities have been wiped out. But because some of the confiscatory plans of reorganization have been consummated, is no reason for going ahead with the rest of them and unfairly wiping out hundreds of millions more of securities. Both pre-depression and post-depression earnings show that none of the Commission's plans of

**reorganization was justifiable. But if they are all carried out, they will establish numerous precedents for future confiscatory reorganizations of other railways that may get into financial difficulties owing to temporary conditions. The railroad industry is going to need credit in the postwar years; and nothing has done more to cause its present very low credit than the destruction of securities that has been caused and is threatened by the Commission's reorganization plans.**

## Trucks for Work Equipment Maintenance

Many new problems have arisen and many others have been greatly aggravated by the shortages of labor and materials with which maintenance officers are contending, and with which they will probably be forced to contend so long as the war lasts. As one means of solving the problem of doing more work with less men, the railways have placed an unusually large number of new units of work equipment in service during the last three years, substituting machine-power, so far as they could obtain the needed equipment, for the man-power that is not available. In addition, they have retained in service many of the older units that they possessed, beyond the time when obsolescence and other considerations of economy warrant, so long as they can be operated safely and save man-hours.

This additional equipment has, in itself, created a number of new problems, for it has been necessary to train new men to handle the new machines, and some of the older ones as well, at a time when trained machine operators are as scarce as, or more scarce than, other skilled labor.

One of the problems thus created is that of field maintenance. Newly-trained operators are less skilled in the operation of the machines than those of longer experience, and they seldom give their equipment the same thorough inspection and care that the more experienced operators do almost automatically.

This situation tends to throw a heavier burden on the field maintainer, not only because there are now more machines to look after, but also because, in the last analysis, it is only through him that the operator can complete his education with respect to the operation and care of the machine in his charge. Under these conditions, also, the field maintainer must devote more time to the individual units and can, therefore, see each one less frequently than he should normally.

This points to the importance of his ability to go from one machine to another with minmum loss of time. In the past, he usually traveled by train or motor car, or a combination of both. At present, trains must largely be eliminated as a normal means of transportation.

The motor car, while as reliable as ever, is now much less satisfactory as a transportation unit for either a single employee or a large gang, particularly where long "jumps" must be made, by reason of the present increased density of traffic. Furthermore, it is now necessary for the field maintainer to carry more replacement parts than formerly, some of which are relatively heavy.

In these circumstances, it may be of decided advantage to give the field maintainer a light truck. All experience indicates clearly that where this is done, it not only increases the productive time of the maintainer more than enough to justify the investment, but also improves the quality of maintenance. It enables him to carry replacement parts as needed to every point where machines may be working, and both hastens the repairs and improves the standard of maintenance.

## Light Freight Cars for High-Speed Service

Much is being written these days expressing the thoughts of railroad officers and others concerning the types of freight-car equipment which we are likely to see built after the war when a free choice can be made among the structural materials which will be available. Practically all emphasize the thought that a reduction in the weight of cars will be the most sought-after feature, with the adaptability of the car to high-speed service almost as important.

Doubtless there are few, if any mechanical-department officers who will argue that weight savings consistent with structural strength and service life cannot be realized through the use of alloy steels, aluminum or magnesium alloys, welded designs and other sound engineering practices. But, knowing that higher operating speeds will be demanded, they are faced with the problem of providing equipment which will operate safely at sustained high speeds, consistently with adequate protection to the lading, and still not require excessive expenditures for maintenance.

A number of factors are of importance in the consideration of the problems of high-speed operation of lightweight cars. They involve, primarily, the trucks, brakes, draft gears and wheels. Although there are a number of high-speed freight-car truck designs on the market and others being developed, they are all for the most part merely refinements of standard truck designs.

While they attempt to deal with the problem of vertical loading and the overcoming of harmonic spring action, they leave much to be desired in handling lateral movement. Some provision for swing action appears to be needed in trucks which are to be capable of operating at speeds of 80 m.p.h. or better in freight service. It is not hard to imagine what such speeds would feel like in a passenger car not equipped with swing-motion trucks, no matter how well the design took care of vertical shocks.

As compared with passenger cars, there is also the

difficulty in improving the vertical riding of freight cars at high speeds because of the limitation on the amount of truck spring deflection which can be permitted without danger of coupler separations. This is especially true with respect to lightweight cars. The use of some type of tightlock coupler would be helpful here and ultimately may have to receive serious consideration.

Although considerable study has been devoted to the construction of draft gears suitable for use in the cars which we are now operating, there will be a problem in attempting to adapt such gear designs to lightweight equipment.

The present approved gears probably are too stiff, initially, for use on freight cars which will be several thousands of pounds lighter than the present standard cars. Opinion is divided on the proper method of cushioning end shocks and this field offers an opportunity for further study, of which there will be an increasing need as car weights decline and speeds increase under the stress of postwar competition.

Up to date there has been little opportunity for studying the braking of freight trains composed of lightweight cars. It is obvious, however, that if the present braking ratios of empty and loaded cars are maintained, there will necessarily be a sacrifice of available car capacity in order to remain within braking limits.

Even now there is interest on the part of some railroaders in using a load-compensating brake on standard equipment and they are waiting eagerly to see what the manufacturers have in mind for use on lightweight cars so that full advantage may be taken of a high pay-load to gross-load ratio. The air brake manufacturers are fully aware of the needs in this field and are working on it.

Higher speeds with heavier braking will impose great additional stresses upon freight-car wheels. Improvements in the manufacture of both steel and chilled-iron wheels have been occurring over a period of many years with the result that, at present, the mileage service figures on both types are very satisfactory. Even more closely controlled manufacturing processes and wheel shop practices seem indicated, however, for freight-car wheels that are to be used under high-speed equipment. It is certain that wheel study will engage the attention of both railway officers and of manufacturers.

This summary of problems, while not discouraging because research and ingenuity can solve all of them, should make it clear that the ideal lightweight high-speed car will not be built immediately after the war is ended and materials are available. There is no doubt that the era of lightweight construction will start but we are not yet ready with the fully perfected running gears, draft gears and brakes necessary for obtaining the best of service from such equipment. As the percentage of lightweight cars in the railroads' inventory increases, interest in the solution of these problems will increase proportionately.

# Standards of Comfort for Railroad Employees

As a measure to hold employees where the need is particularly acute, a number of railroads have gone to extraordinary lengths at some points to provide attractive eating, sleeping and sanitary accommodations. This expedient has often served its purpose where applied; but it may be well to reflect that such special provision at some points and for some employees may breed discontent as well as allay it.

Notable inequality as between different locations or occupations, in the attention bestowed by management upon the comfort of employees, is as likely a source of employee discontent (at the unfavored points) as general sub-standard conditions. Most people are quite as much concerned over their position relative to others as for the adequacy of their own living standards.

Normally and properly, railroad management does not consider itself primarily responsible for the eating and sleeping arrangements available to employees, and certainly "paternalism" is not wanted. On the other hand, purely as a matter of managerial ethics and disregarding economic consequences, railroad managements would scarcely wish to send men to work under badly sub-standard conditions as to sleep, food and sanitation. The elementary biological requirements of railway employees are, as a general rule, adequately provided for. Why should there be any exceptions?

Such matters are the essence of "working conditions," but management and unions seldom include them in their "collective bargaining." The welfare and convenience of a man who works for wages may often be far more effectively advanced by improving the physical conditions which surround his job than by the usual union program for further limitations of hours of work, complex rules which produce "overtime," or increases in hourly rate of pay. Sometimes resentment at unpleasant surroundings may take the form of demands for punitive compensation or onerous working rules—the demands themselves not revealing their true origin.

Occasionally, bad conditions at one point come to managerial attention and are corrected—perhaps by the construction of a modern Y. M. C. A. building or other appropriate facility. But such handling does not relieve conditions before they become acute; nor does it mitigate at all the harm done by strong contrasts in relative conditions between various points on the same railroad.

What appears to be needed is a company policy, thoroughly and continuously policed, of providing reasonable minimum standards of adequacy in quality and price of food and sleeping accommodations and in convenience and cleanliness of sanitary arrangements throughout the entire railroad—top management to concern itself especially wherever local arrangements fall below such standards.

# A. A. R. Postpones Meetings

## Acts on June 9 to Defer Chicago and St. Louis Gatherings to Free Railways for Important War Traffic

THE annual meetings of the Purchasing and Stores division and of the Mechanical division, Association of American Railroads, scheduled to be held in Chicago on June 22-23, and in St. Louis, Mo., on June 23-24, respectively, have been postponed until further notice. This action was taken in accordance with the recent requests of J. Monroe Johnson, director, Office of Defense Transportation, for the wholesale cancellation of conventions and meetings in order to make more railway equipment and facilities available for our military forces. It is also a precautionary measure to assure that adequate equipment will be available for the prompt handling of the wounded service personnel returning from the war fronts and prisoners of war on their way to internment camps.

## *The Purchases and Stores Division*

The postponement of the twentieth annual meeting of the Purchases and Stores division came at a time when arrangements had virtually been completed by Louis P. Krampf, chairman, and William J. Farrell, executive vice-chairman, for an important program geared directly to the war effort of the railways and dealing especially with their material procurement problems. As the first general meeting of the division scheduled since Pearl Harbor, this year's gathering was planned to bring together purchasing and stores department officers of the railways of the United States and Canada for the first time since July, 1941.

In addition to the presentation and discussion of 14 constructive subject committee reports, covering the more important wartime problems of purchasing and stores activities, the program also scheduled timely addresses by General C. D. Young, deputy director, Office of Defense Transportation, formerly vice-president of the Pennsylvania and chairman of the P. and S. division, A. R. A., in 1925-1926; C. H. Buford, vice-president, Operations and Maintenance department, A. A. R., and Colonel Robert S. Henry, assistant to the president, A. A. R.

One of the most instructive and interesting features planned was an open forum participated in by representatives of the Transportation Equipment division and other divisions of the War Production Board. Scheduled for the first day of the meeting, this forum was designed to give members opportunity of submitting questions pertaining to priority, limitation and conservation orders. It is particularly unfortunate that so many railway procurement officers will be denied this opportunity of participating in such pertinent discussions which undoubtedly would have gone far to clear up misconceptions and misunderstandings and to promote the better understanding of many wartime regulatory measures.

It is to be regretted that it has been necessary to postpone this annual meeting. The gathering of so many procurement officers, from all sections of the country and the free exchange and dissemination of ideas doubtless would have helped them solve many perplexing wartime procurement problems. Disconcerting as it is, no one debates the necessity for the action. The immediate problem confronting the officers and the general committee of the Purchases and Stores division is to devise the best means of carrying on their division activities and providing for the adequate dissemination of data that will be of the utmost help to their members.

It is fortunate that the outbreak of the war found the long-established and highly organized railway purchasing and stores departments so well prepared. No small part of the credit for this superb organization is due to the Purchasing and Stores division. The persistent activities of its officers, its General committee, its subject committees and its members developed training and methods which have been of inestimable value to many individual railway procurement departments in coping with the many new and highly involved problems that have developed in conjunction with wartime governmental control and distribution of materials.

### New Roles for Purchasing Officers

With little in the way of precedent to guide them in their new and exacting duties, railway purchasing and stores officers have tackled and solved some of the most complex problems that ever have taxed the ingenuity and resourcefulness of procurement officers. In addition to their regular duties, railway purchasing agents have been called to act as arbiters in the temporary adjustment of railway material specifications. Not only have they been called upon to establish new sources of supply for regular materials but it has developed upon the procurement officers to develop pertinent data on and sources for wartime substitutes for many regular materials that have gone to war.

Hedged in by governmental regulations, overburdened with regulatory orders, the preparation of reports, supplementary data and forms to accompany purchase orders and severely hampered by the loss of trained employees railway procurement officers are playing a vital role in the procurement and conservation of railway material which in turn are so important to national transportation. Developed and created largely out of the experience gleaned by the railroads from World War I, the Purchases and Stores division also has played a vital part in the war efforts of our railways. It functions whenever group action is desirable, in discussing individual

# of Purchasing and Stores and Mechanical Divisions

or joint railway problems with war agencies, assisting in gathering information for the ODT and other Government offices and in promoting needed revisions of regulations or other conditions interfering with the procurement of railway material. The division and its work are indispensable.

## *Mechanical Division*

Present plans call for postponement of the annual meeting of the Mechanical division and for the General Committee to hold its meeting as scheduled at the Hotel Jefferson, St. Louis, on June 22. This meeting will take action on the recommendations in the committee reports which were to have been presented at the postponed meeting. The Mechanical division has scheduled 13 standing committee reports for consideration in 1944. These are:

Lubrication of Cars and Locomotives
Brakes and Brake Equipment
Couplers and Draft Gears
Geared Hand Brakes
Locomotive Construction
Further Development of Reciprocating Steam Locomotive
Arbitration
Prices for Labor and Materials
Specifications for Materials
Tank Cars
Loading Rules
Wheels
Car Construction

### Helps in War Effort

It would be difficult to evaluate the contribution which the A. A. R. Mechanical division has made to transportation achievements in the war-time emergency. Certainly space is not available here to do more than mention a few of the important things which have been done. Current changes in the interchange rules have speeded up car movement through terminals, sustained mechanical conditions designed to minimize failures and delays in road train movement and promoted quicker repairs of cars by approving the use of certain materials which formerly had to be secured after unavoidable delays from car owners.

Welding rules have also been modified as a result of extensive research to permit reclaiming and getting increased service life from such car parts as couplers, yokes, truck side frames, etc.

The action of the Mechanical division in setting up mechanical committees at 51 important terminals throughout the country to study and correct conditions causing delay to freight cars has produced excellent results. The various standing committees of the division have worked faithfully and hard and, among these groups, none has put in more time and done more effective work in promoting the safe movement of war and civilian traffic than the Loading Rules committee. Many meetings held jointly by this committee with shippers and representatives of the armed services have resulted in developing rules for loading all kinds of war materials and other special loads in the simplest and least expensive method consistent with loads reaching their destination safely.

Emergency designs of several different types of freight cars, including tank cars were developed by the Car Construction committee and the Tank Car committee in conjunction with the American Railway Car Institute with a view to minimizing the use of critical steel and substituting wood and other materials, which were available, thus making it possible for the railroads to get badly needed new cars, and at the same time release steel for the war effort. Admittedly these emergency car designs were compromises that were not universally approved, owing to reduced capacities in some instances and the obvious fact that relatively high maintenance costs might be expected in later years. These costs, like many others, must be charged to the war effort and the designers credited with doing the best job possible with the materials available.

Largely through the efforts of the Mechanical division, the railroads have taken collective action to substitute ferrous metal and other materials for brass and bronze equipment parts involving the use of critical basic copper and tin. These detail parts include journal bearings, air-brake parts and locomotive details. Most of the work in developing emergency designs to effectuate these changes has been done by the Committees on Journal Bearing Development, Locomotive Construction, Car Construction, Brakes and Brake Equipment. It is estimated that railroads have reduced their consumption of brass and bronze 30 per cent as a result of this concentrated effort.

In the field of research as applied to railway mechanical problems, the Mechanical division has been particularly active. Numerous progress reports on car axle tests and locomotive crank pin tests have been issued and a joint report of the Mechanical and the Engineering divisions on Locomotive Counterbalance Tests is now in the hands of the respective general committees preliminary to early release.

These tests of stresses developed in rails by different driving-wheel counterbalance arrangements at various high speeds were unusually accurate and extensive and the voluminous report promises to throw real light on a highly controversial subject.

# Looking Ahead in Forest Products

**What are the chief provisions of W. P. B.'s proposed over-all control of lumber? How will it affect the railways? Will crosstie production be restricted?**

OF all the perplexing procurement problems that face railway purchasing officers, forest products retain their place as the country's most critical raw materials. Moreover, as if to make the drama more incredible, the scene is laid in a country where lumber, timber and ties always have been among its most plentiful products, and where previous shortages usually have been limited to a few weeks or months at the most.

Amid a succession of rumors that heralded the issuance of the War Production Board's lumber order L-335 on March 22—rumors that have persisted and grown in the meantime—procurement officers have been assailed by doubts and questions. What is the fundamental purpose of L-335? Is it the beginning of a series of rigid control orders that further will restrict railway supplies? Is it a fact that crosstie and switch tie production will be halted to divert tie timber to the production of lumber? Will the "Haves" among the railways be forced by governmental direction to share their jealously guarded supplies of crossties and switch ties with the "Have-nots"? These are among the questions that face railway procurement officers.

### How Lumber Control Developed

In the early stages of the war, lumber was naturally accepted as the logical substitute for other critical materials. It now appears that during that period few, if any, foresaw the prolonged sustained demand in excess of supply. It was during those early days that enormous lumber requirements for the construction of cantonments, ammunition plants, shipyards, and other military facilities were met by the lumber industry without much difficulty. As the output of war goods increased, metal supplies proved inadequate and wood was used as a substitute wherever possible.

In the early days of the increasing demand for lumber and timber, the possibility of a serious general shortage seemed remote, with the exception of specialty items of almost flawless quality required for such purposes as aircraft and pontoons. No restrictive orders were deemed necessary during the building program of 1941-1942, and it was not until a year and a half later that the pinch on Douglas fir prompted the issuance of order L-218 by the W. P. B.

As lumber demands increased, order L-290 was issued to control the use of western pine, and it was not long before disruption spread to eastern softwoods, southern pine and hardwoods. Conservation or limitation orders M-361 and M-364 were issued in December, 1943, to divert lumber of these species to the most critical uses, and other orders were issued subsequently to control other species.

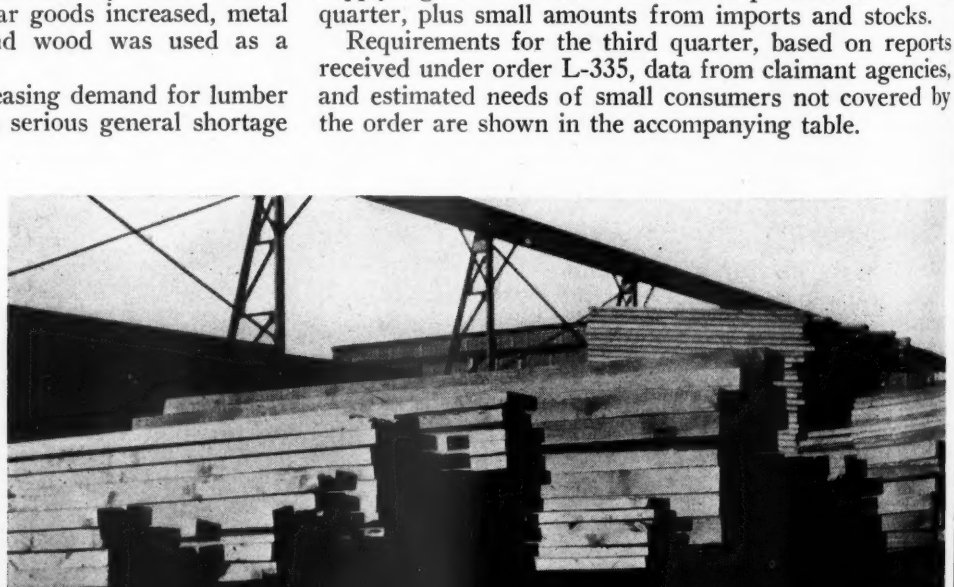
### Shy 1.5 Billion Feet for Third Quarter

As the first step in the over-all control of lumber, the W. P. B. on March 22 of this year, issued order L-335 to establish control in providing lumber for both war purposes and the most essential civilian needs. Under this order, all major lumber consumers were required to file applications for their second and third quarter requirements.

The primary purpose in this was to provide the W. P. B. with accurate information on the over-all demand for specific purposes for the second and third quarters, receipts during and the inventory at the end of the first quarter, as an aid in establishing a balance between supply and demand.

As a result of this action, the W. P. B. announced recently that lumber requirements for the third quarter of 1944 are estimated to be nearly 1,500,000,000 board feet greater than the probable supply. Estimated requirements total 10,570,000,000 board feet while the probable supply is estimated as 9,127,000,000 board feet. The supply figure is based on estimated production for the quarter, plus small amounts from imports and stocks.

Requirements for the third quarter, based on reports received under order L-335, data from claimant agencies, and estimated needs of small consumers not covered by the order are shown in the accompanying table.



**Under the New Central Control for Lumber, Essential Consumers Will Be Provided with Purchase Authorizations Which May Be Extended to Suppliers as Long as the Total Orders Issued Do Not Exceed the Quantity Authorized**

**Third Quarter Lumber Needs**

| | Board Feet |
|---|---|
| Major industrial consumers (Class I consumers, as defined in L-335, who were required to file W. P. B. Form 3640) | 6,356,000,000 |
| Military, export, and indirect military construction | 1,715,000,000 |
| Authorized civilian construction | 1,128,000,000 |
| Civilian maintenance and repair | 1,027,000,000 |
| Small industrial consumers | 344,000,000 |
| Total | 10,570,000,000 |

The total number of major industrial consumers of lumber was originally placed at 20,000 to 25,000, on the basis of estimates from the industry divisions within which these concerns operated. It now appears, however, that only 10,000 consumers use more than 50,000 board feet of lumber per quarter, and hence are Class I consumers as defined in Order L-335.

Estimated lumber production for the first quarter of 1944 totaled 7,701,602,000 board feet, of which 4,433,626,000 board feet were produced in the East and 3,267,976,000 board feet in the West, according to a report from the W. P. B. Comparison with production for the first quarter of 1943 reveals an aggregate increase of three per cent (an increase of 22 per cent in the West and a decrease of 8 per cent in the East). The heaviest regional decline, 15 per cent below the first quarter of 1943, was reported from the South where rains and floods disrupted operations. Favorable weather prevailed during that period in all other sections of the country.

Despite first quarter production records, it is unlikely that the 1944 goal of 34,000,000,000 board feet will be attained, for Chairman Paul V. McNutt of the War Manpower Commission announced recently that the lumber industry lost 53,000 employees during the first quarter of this year and the number of employees is still shrinking. He declared further that, although the demands for the armed services are rising steadily, employment in the industry is showing an alarming trend that must be remedied by the addition of at least 68,300 workers by July 1.

## Military Requirements First!

"The essential problem is how to make certain that military and other essential needs for lumber are met," J. Philip Boyd, director of the Lumber and Lumber Products Division of the W. P. B., declared recently. Emphasizing that military needs for lumber cannot be predicted accurately, Mr. Boyd said that no one knows how great or where that need will be—only one thing is certain, that the Military Services must have the lumber they need on time at the place where it is needed. Continuing, he said that an attempt must be made to balance demand and supply with the least disruption of established trade practices and the least hardship to producers, distributors and consumers.

Over-all control of lumber presents many complexities. For instance, there are approximately 37,000 commercial sawmills in the country, with production ranging from more than a million feet per day to less than 50,000 feet per year. Nearly half of all the lumber produced comes from 28,000 mills, each of which has an output of less than 5,000,000 feet per year. Lumber production involves more than 50 species sawn to scores of grades and sizes. Hence, it would be practically impossible to write into an order all of the implementation features necessary.

The situation is complicated further by our national distribution system. Some 25,000 retail and wholesale distribution yards supply lumber to hundreds of thousands of industrial consumers and contractors and to millions of farmers and homeowners. Approximately 40 per cent of all lumber normally moves through distribution yards.

## Delivery Restrictions Imposed

The single over-all control proposed by the W. P. B. will take the form of an amended version of the Consumers Requirements Order, L-335, together with directions to several producing areas, according to officers of the Lumber division. The amendment will apply to both consumers and suppliers and will call for the revocation of Orders M-208, L-290, M-361 and M-364.

The prospective control will restrict the delivery of all lumber by any supplier to certified consumers only. Essential consumers will be provided with purchase authorizations, which in turn may be extended to suppliers as long as the total orders issued in this manner do not exceed the quantity authorized. Major industrial consumers (that is, Class I consumers as defined in L-335), and the military will be authorized to receive the quantities of lumber approved on their requirements applications.

Other industrial consumers will be authorized to receive the quantities of lumber necessary to carry out authorized programs through preference ratings assigned to them by other W. P. B. orders. Farmers' needs will be met by a general allotment of lumber to the War Food Administration for farm use. All other consumers, that is, individual users, will obtain lumber from distributors. Quantities will be made available to distributors for this purpose, although these quotas have not yet been determined.

Since the demand for lumber exceeds production, it will be necessary to limit some users and to give more essential users preferential treatment over the less essential. Moreover, the more essential users probably will be entitled to place orders which will be filled prior to less essential orders. However, under the working of the new control, the placing of essential orders will be regulated so that they shall not exceed the anticipated lumber supply.

Since it is evident that the control of very small producers is not practicable, it is believed that the new control will be limited to mills where it is feasible and the lumber from the smaller mills (those producing less than 100,000 f. b. m. per year) will be channeled into distribution yards, at which points the control will be imposed.

Naturally, the proposed control will provide primary consideration for the needs of the armed forces. It is anticipated that among the first of the new directions to be imposed by the W. P. B. will be one to the sawmills, by species, directing them to ship all or a part of their production on military orders only. Present indications are that at least 20 per cent of the total lumber production will be required for direct military purposes.

## Control Over Inventories

Critical species or grades and sizes of lumber probably will be controlled by direction, reserving them for specific uses. Another prospective direction that probably will be resorted to will control maximum inventories. Mills of certain species may be directed to maintain shipping schedules of stated percentages on certified purchase orders where necessary.

On the other hand, when a sawmill does not have enough authorized purchase orders for all its output, the

(*Continued on page 1158*)

# Materials Control Plan Approved

**Purchasing officers are told that, after year's operation, C. M. P. plan is doing all that can be expected of central material control — No changes are in prospect**

By Walter C. Skuce

*Director, Controlled Materials Plan Division, W. P. B.*

A YEAR AGO, the Controlled Materials Plan (i.e. "C. M. P.") was in its first quarter of operation. It was only a partial operation at that time because it was the transition period between the "P. R. P." (Production Requirements Plan) and the C. M. P. It was expected that the first quarter's operation under C. M. P. would be difficult and there was apprehension about its ultimate success. At that time some of the regulations were not even written. Many of the practical problems had not yet been resolved.

### The Basic Requisites of Central Control

I attempted at the meeting last year [i.e., of the National Association of Purchasing Agents] to point out some of the fundamental difficulties from an operation standpoint to which industrial groups had called our attention, and the steps that we were taking to handle these problems. I promised that the C. M. P. Division would take prompt action to correct those features of the plan that were causing the difficulty. These revisions were made and the apprehension about the second quarter and, for that matter, about the plan, began to decrease. Everybody buckled down to try to make it.

I am convinced that, to be effective, a central control over war production has to be based on sound principles, must be practical of operation, and contain sufficient flexibility. Furthermore, a central control requires close cooperation between industry and government.

In the development of the C. M. P. many changes have been made to incorporate practical considerations to lessen the burden upon industry. When sufficient data had been secured from the early operation under the plan so that the requirements for certain uses were clearly established, quota provisions were applied to eliminate numerous applications previously required. As we gained experience, many controversial issues were settled, giving the plan its present stability so that it has become a recognized part of our day-to-day job.

During this development period, the W. P. B. adopted the policy of decentralizing applications. To the greatest degree consistent with this policy, the bulk of the applications under the C. M. P. were decentralized for handling by the regional offices of the W. P. B., thereby placing the point of contact between industry and the W. P. B. in close proximity to the applicant's location. In all of our activities, serious consideration is given to handling W. P. B. matters in the regions so that the local offices of the W. P. B., which are in close contact with the areas which they serve, will be in a position to render substantial service to industry in a convenient manner.

NOTE—This article is an abstract of an address presented to the National Association of Purchasing Agents at New York on May 29. Mr. Skuce went to the W. P. B. from the General Electric Company.

It has been our policy to make all of our interpretations of C. M. P. regulations matters of public record so that all concerned may be guided by them. Throughout the development in C. M. P., the basic principles which I emphasized one year ago have never been changed. These basic principles are: (1) Realistic programs carefully laid out by the war agencies, which can be met with the available materials and facilities, and (2) the proper flow of materials and products so that these programs will be met on schedule.

In determining programs that are possible of attainment within the available supply of materials and facilities—steel, copper and aluminum have been used as common denominators. It is well to understand, however, that the consideration of the size of the proposed program, while at first dependent upon the available supply of steel, copper and aluminum, is also dependent upon the other materials and components which enter into the particular program. An authorization under the C. M. P. gives a manufacturer an allotment of steel, copper and aluminum and a preference rating to aid him in obtaining other materials and components to carry out his authorized schedule. The W. P. B., therefore, has a further obligation in the control of other materials and parts related to a given authorized schedule to be sure that a program first based on steel, copper and aluminum will be practicable in the light of any other more restrictive item.

### What of Copper, Steel and Aluminum?

Questions have been raised on several occasions as to whether steel, copper and aluminum would continue to be controlled materials, if the supply of any one of them became abundant, or if other materials commonly used, because tight in supply, would be added to the three controlled materials now used in the plan. Since steel, copper and aluminum are used as common denominators in the fashion that I have described, it is not our intention to drop any one of them or to add any new materials to the three now being used for C. M. P. control purposes. Obviously, any additions of new materials might require new bills of materials and a substantial amount of additional work, which we feel would not contribute anything to the effectiveness of the plan. On the other hand, if steel, copper or aluminum were dropped, the major production programs of the country would not be covered properly, since these three materials are most common to all of our programs.

Under the C. M. P. a preference rating is given for the procurement of other materials and components. It has been found that when a given material or product is in critically short supply, preference ratings alone do not suffice to assure adequate supply and flow. Con-

equently, allocation orders or scheduling orders have een required to tie-in the flow of materials and com- onents with authorized schedules under the C. M. P.

General Scheduling Order M-293, for critical com- onents, has perhaps been one of the most controversial f the controls. It has done a good job. At first, the aperwork with respect to its operation was quite com- licated but much of this difficulty has been eliminated y revisions in the scheduling order.

Many manufacturers operating under C. M. P. have elt that the auxiliary controls over other materials equired to fill an authorized schedule under the C. M. P. ere unduly complicated and were not closely enough elated to the C. M. P. Starting last November, a study as made of all applications under other orders of the V. P. B. to make them complementary to the C. M. P. nd to eliminate all of the applications that could be dis- osed of because of the overall controlling features of the . M. P. As a result, about 40 per cent of the application rms previously received in Washington have been liminated and the other orders and regulations have been ade to tie-in more closely to the basic pattern that the . M. P. establishes.

## Effectiveness of C. M. P.

Today the C. M. P. is doing all that could be expected f a system of central control. During the last year the crease in the production of end products has been ubstantially greater than the corresponding increase in e controlled materials that were used as a basis for etermining programs. Comparing the fourth quarter of 943 with the fourth quarter of 1942, the quarterly pro- uction of airplanes of all types increased 80 per cent; e quarterly delivery of dead weight tonnage of merchant essels increased 81 per cent; combatant shipping pro- uction increased 257 per cent. During this same period, luminum supply increased 36 per cent; copper increased per cent; and carbon steel increased 7 per cent; and the pply of alloy steel decreased 21 per cent.

It is quite significant, from the comparison of the per- ntage changes in the available supplies of these basic w materials with the percentage changes in the output f finished products, that the increased production as in no small measure due to a better programming nd control of production through the efforts of industry nd government. While there are undoubtedly other ctors contributing to this production increase, I feel at there is little question that the C. M. P. has been fective.

The C. M. P., in its present form, is sufficiently flex- le to handle the changing production requirements ought about by the developments of the war. We are l familiar with the sharp adjustments that have had to e made as programs were changed to keep pace with the ifting of emphasis from one type of military production another. As an example, the landing craft program; e small artillery program; changes in the character the aircraft programs, etc.—all of these changes were ade within the flexible features which permit practical eration under the plan.

In considering the many programs with which we are ced currently, with the many changes which will come out by reduction in the demands for military needs, th the many problems in connection with contract ter- ination, the C. M. P., with suitable practical adjust- ents, can be made to handle these changes and prob- ms until such time as the military demands are cut back fficiently so that there is no longer any need for a cen- al control, at which time C. M. P. should cease to exist.

It is recognized by the W. P. B. that changes must be made in regulations to guide industry and to clarify the procedures with respect to material inventory and production controls as they are affected by policy determination in the termination of war contracts. We now are working on a regulation to cover these particular provisions so that our regulations will be adequate and will clearly define the methods and procedures by which contract termination policies can be carried out without conflicting with any other rules or regulations of the W. P. B.

We are in the process of authorizing production schedules and making allotments of controlled materials for the third quarter of 1944. In matching the program requirements against supply for the third quarter of 1944, we have insufficient materials in supply to meet military and essential civilian needs and have had to cut back many important requirements in order to bring demand and supply in balance. Much of the optimism that was expressed at the turn of the year is not borne out by the current demands of our third quarter requirements for military and essential civilian programs. It is apparent, therefore, that our attention must continue to be directed toward winning the war and on war production, since materials, manpower and facilities are not yet available in reliable amounts for the authorization of increased production of civilian items.

We have also considered how the C. M. P. may be related to the problems that will be brought about by the spotty unemployment that will develop when contracts are terminated. Procedures have been developed which, if used, will permit the authorization of civilian production in such manner that it will not interfere with military production, but will stabilize employment and will have the effect of unwinding existing controls gradually in an accountable fashion so that, when these controls are no longer needed, they can be discontinued.

One of the biggest problems with which we are faced today is the shortage of forest products, which were previously considered to be in such plentiful supply. The heavy demand for overseas shipments has so increased the demand for forest products that an acute shortage has developed which is felt through all areas of forest products and is particularly serious from a packaging and shipping container standpoint. Controls have been, and are being, prepared to allocate this material to meet the essential needs of authorized programs so that all permitted production may be packaged. This does not mean that all permitted production will be packaged in the manner to which we have been accustomed, but it means that through re-use, through multiple packaging, through using less material to make containers and by the use of alternate packaging where certain types of packages may be more plentiful, the production in the country will not be restricted through the lack of packaging. With an effort on the part of all of us to take adequate measures to conserve and to improvise, adequate production levels will be maintained and products will be adequately packaged to assure their safe shipment.

## No New Plan in Prospect

A year ago I told you that we had no new plan in prospect. I repeat today, we have no new plan. Unless there are compelling reasons for changes which may be brought about by changes in military requirements; by need for increased consideration of manpower, or in the authorization of production to stabilize employment as military demands decrease, and to meet the problems

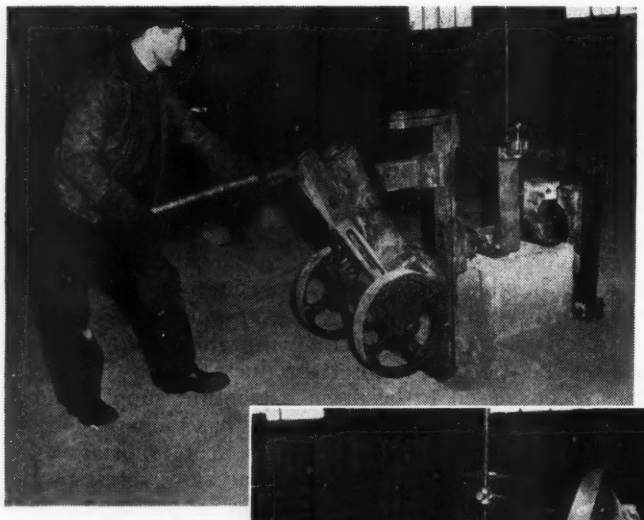
(*Continued on page 1158*)

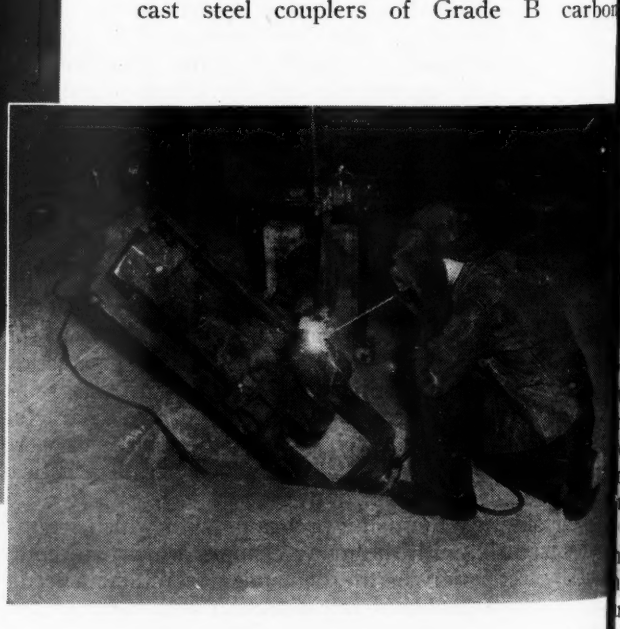
# How the Erie Reclaims Couplers

**Designed as a war measure to salvage critical material and conserve manpower, the electric welding and "normalizing" process proves its value through fifteen months of operation**

AMONG the huskiest of railroad "War Babies" born of World War II is the process for welding and "normalizing" cast steel car couplers, as is practiced by the Erie at its Meadville, Pa., reclamation plant. Following closely the extensive research and tests that were approved by the Mechanical division of the Association of American Railroads, the Erie's new welding and normalizing shop has been in production since March 1, 1943. Up to the end of May of this year, 5,162 couplers had been reclaimed successfully by welding and normalizing.

Originally devised as a wartime conservation measure designed to salvage critical material, to relieve overcrowded foundries and to conserve manpower, all vitally needed in primary war production, indications now point to the adoption of the procedure as a standard reclamation process. Not only have the reclaimed couplers successfully passed the physical tests to which new couplers are customarily subjected, but the results of several thousand reclaimed couplers placed in service during the last 15 months have been equally successful. Moreover, the new shop facilities are being used further to extend reclamation practices, which include the reclamation of coupler knuckles, lock blocks, lock lifts, cast steel truck side frames, bolsters, center plates, follower blocks, cast steel coupler yokes and miscellaneous other items.





**Three Steps in Welding Car Couplers—**

**(1) Using a Specially Designed Truck to Transfer a Cracked Coupler to the Welding Jig or Positioner, (2) Loosening the Cam Lock Prior to Placing the Coupler in a Desirable Position for Welding, and (3) Welding a Crack in The Head of a Coupler While the Jig is Held in Position for Down-Hand Welding by an Air Brake.**

Couplers probably are subjected to more shocks and abuse than any other part of a train. Hundreds of thousands are in use and replacements are frequent by reason of cracks or breaks caused by fatigue and crystallization of the metal. As a pioneer in modern coupler reclamation methods, the Erie collects its damaged cast steel couplers and ships them to its central scrap and reclamation plant at Meadville, Pa., where the damaged couplers are reclaimed by electric-arc welding and subsequent normalizing which relieves heat stresses, corrects fatigue and crystallization and imparts new service life to the couplers.

Coupler reclamation on the Erie has been developed as the outgrowth of cooperative tests carried on by the railroads in conjunction with the Coupler and Draft Gear committee of the A. A. R., Mechanical division. It was early in 1942 that couplers were electric-welded, normalized and then given the same tests that are customarily applied to new couplers. All of the reclaimed couplers passed the standard tests successfully and no failures resulted.

As a result of these tests, A. A. R. Interchange Rule 23 subsequently was extended to allow the reclamation of cracked or broken cast steel couplers of Grade B carbon steel by electric-arc welding and controlled normalizing procedures. Later, a series of tests were inaugurated by the Coupler and Draft Gear committee to determine whether to extend the rule to include oxyacetylene welding

**A Charge of 45 Welded Couplers Loaded on the Car Floor of the Welding Furnace Which Has Eight Oil Burners and Is Equipped With Pyrometer-Micromax Heat Control**

Since successful reclamation depends upon controlled normalizing, Rule 23 requires that shops undertaking this work must be provided with proper facilities for relieving all stresses created by welding and for relieving service fatigue and removing the crystallization of metal in the couplers. After welding, the couplers must be normalized in a furnace equipped with satisfactory temperature recording apparatus and controls so that the temperature may be raised gradually within a two-hour period to a point between 1,500 and 1,600 deg. F. and subsequently maintained at that point for 1½ to 2 hours. Then the couplers must be removed from the furnace and allowed to cool in still air, protected from drafts, rain and snow; moreover, quenching is not allowed.

## Care and Precision Bring Success

Undoubtedly the success that has followed the Erie's venture in welding and normalizing cast steel couplers, stems from the care and precision with which each step in the process is undertaken. Experienced workmen, good supervision and five separate inspections of the couplers during the reclamation process assure quality production.

After the worn or defective couplers are delivered to the Meadville reclamation plant, they receive their first inspection and those with cracks that may be welded successfully are moved to the forge shop where they are reinspected and heated in a 6-ft. by 8-ft. standard Mahr furnace prior to straightening the shanks and closing the guard arms in an air-operated straightening press. From here the couplers are moved to the welding shop.

The welding and normalizing equipment is housed in a corrugated sheet steel shop building, with a steel frame, that was removed from another location and re-erected at Meadville on an appropriate concrete foundation and provided with a concrete floor. The equipment consists of an air-operated rotary-type facing machine and an electrically-operated standard shaper, each with appropriate jigs specially designed; oxyacetylene cutting torches; two coupler positioners or jigs to aid in welding, and coupler hand trucks, all specially-designed and built in their shop; five 300-ampere electric welding machines, and one car-floor-type Mahr heat treating furnace, 6-ft. by 12-ft., equipped with automatic temperature control and recording devices to provide tape records from a recording pyrometer.

When the couplers are received at the welding shop they are carefully inspected for cracks and, by using an oxyacetylene cutting torch, the metal is removed along the entire length of each crack, to provide for the application of the arc-weld. The next step is the application of a gage to determine the amount of welding required to be applied to the butt of a straight-shank coupler to restore its normal length. Where the wear is light, the butt is built up directly with weld-metal; however, in other instances excessive batter frequently necessitates welding a plate directly to the butt. In these cases the coupler is placed in a special jig of a shaper and the butt is squared up to receive the rebuilding plate.

Next, one of the specially-designed hand trucks is used to move the coupler to a welding booth, where it is secured to a welding jig or positioner which allows the coupler to be swung through a complete circle and so placed for the convenient down-hand welding of cracks or breaks at any point on the coupler shank or body.

After building up the butt and the keyway, and welding the cracks with shielded-arc electrodes, the coupler is removed to the facing machine for squaring the butt and the coupler subsequently is removed to the finishing location where it is inspected again and the welds inside the head or lock portion are thoroughly ground to remove any protrusions or obstructions. After these finishing operations, the coupler is marked with steel dies in accordance with A. A. R. specifications.

Prior to normalizing, the couplers receive another inspection for the possible detection of any cracks or checks in the head and, if none are found, the couplers are loaded to the furnace car-floor with the aid of an air-hoist that is operated from a monorail. Forty-five couplers, placed in an upright position, comprise the charge which is rolled into the oil-fired furnace. The automatic controls are so adjusted that a two-hour period is required to raise the temperature gradually to between 1525 deg. F. and 1550 deg. F., the normalizing temperature. The charge is held at this temperature for two hours and then is removed from the furnace to the still air inside the shop, where the couplers are allowed to cool, protected from drafts, rain and snow.

In addition to the reclamation of couplers, the Erie welding and normalizing shop also is engaged in reclaiming coupler knuckles and building up their worn surfaces in accordance with Reclamation Practice No. 2, as described on page c-72 of the A. A. R. Manual. Lock blocks and lock lifts are built up and reclaimed in accordance with A. A. R. regulations. Center plates are reclaimed by welding cracks, normalizing and finishing. Worn surfaces are built up on cast follower blocks. Cast steel coupler yokes and miscellaneous other items are reclaimed by building up worn surfaces and welding cracks in accordance with A. A. R. rules.

The development and application of the welding and normalizing process at the Erie's Meadville reclamation plant was undertaken under the direction of John McMullen, consulting engineer, and James J. Collins, supervisor scrap and reclamation, who is in charge of the system's scrap and reclamation plant; this plant is under the general supervision of C. K. Reasor, acting manager of stores.

## Materials Control Plan Approved

(*Continued from page 1155*)

brought about by contract termination, no other changes in the C. M. P. are indicated. We are aware that minor changes in the plan may cause a great deal of extra work on the part of industry and are careful to avoid changes that might have such a result.

Last year I appealed to you to help develop the plan and to assist the government in making the plan work. You answered this appeal with action, and today we all know that the plan has been successful. I have another request to make this year—that you continue to comply with our regulations, that you enforce upon your organization, and, to the extent that you can, upon your suppliers and customers, the discipline called for in the successful operation of the plan. It is to your best interest that you comply with the regulations—it is your duty to your country, your government and your company to adhere strictly to the rules set forth in the C. M. P.

Keep competent people on the job. Do not exceed authorized production schedules. Return excess allotments promptly. When contracts are cut back, when authorized schedules are changed, act quickly with your suppliers. By so doing, the materials that we need to fill our war programs will be available promptly, when they no longer are needed for the purpose for which they were originally authorized. Prompt adjustment will give us a clearer picture—so that we can relax unnecessary controls sooner. Unnecessary accumulations of inventory will be eliminated, thereby decreasing the cost of the war.

## Looking Ahead in Forest Products

(*Continued from page 1153*)

proposed control will allow the mill to sell the remainder of its production only to distributors. The control will be applied at that point, for the sales of the distributors will be restricted to certified orders from duly authorized purchasers.

The proposed control will not change the present priority system, insofar as it applies to lumber. All persons who have been granted purchase authorizations should be able to obtain the allotted quantity, and the preference ratings will determine only the order of shipment within a quarterly period.

As this is being written, the W. P. B. has announced that the over-all control of lumber may not be put into effect until some time during the third quarter. This change from the proposal to place the plan in operation at the beginning of the third quarter was necessitated to permit mills and distributors sufficient time to adjust to the new procedure.

Contrary to rumors to the effect that the reference to cross and switch ties in the definition of products in order L-335 presaged dire restrictions of tie production and the diversion of the timber to lumber sawmills, there is no evidence that any such move has been or is being contemplated by the W. P. B. Neither is there any evidence that the W. P. B. contemplates any action that might force those railways now in possession of substantial stocks of ties to share them with other roads whose inventories are insufficient to meet the demands of this season's tie renewal program. In all probability, L-335 in its amended form will list cross and switch ties as exceptions to the definition of lumber.

The new control places a ceiling on purchases and therefore the problems connected with its operation will, in large measure, devolve upon the consumers. The success of its operation depends upon many factors, the chief of which include the filing of true requirements by the claimants, resisting the temptation to inflate requirements and in conserving lumber in every way, for the control of distribution will not in any way remove the need for sensible conservation in consumption.

The administration of an over-all lumber control faces many complexities and difficulties. The very nature of the industry and the wide variety of species, sizes and grades of the product are not conducive to simplified procedure. Its proponents expect that the early operation of the control measure will develop defects that will require remedial measures. However, the W. P. B.'s new plan for over-all control of lumber is designed to provide an adequate supply for our armed forces and supplies for industrial and individual consumers based upon the relation of essential needs to the available supply.

# Obsolete Locomotives —

## *Why Keep Them Alive?*

**Every mile that is run by a modern locomotive serves emphatically to prove what a serious economic error it is to perpetuate the existence of a 30-year-old unit**

THE modern locomotive, whether it be steam, Diesel or electric, justifies its right to existence only because it has the ability to earn more money for the railroad that owns and operates it—in spite of the fact that by comparison with its obsolete companions of 25 or 35 years of age it represents a tremendously increased investment and may even involve a higher expenditure per mile to run.

This latter statement will immediately be challenged by some who have watched the cost of locomotive operation per locomotive-mile with such intense concentration over a period of years that they may fail to appreciate the fact that the locomotive of 35 years ago could not, under any circumstances, duplicate the performance of its modern counterpart—it just did not have the boiler to deliver the power and it did not have the accessories to improve its efficiency and at the same time to run up the expense of maintenance. It is an interesting sidelight on this question of the cost of locomotive operation to observe that over-all expenditures for repairs—our largest single item of operating expense—on one of our largest railroads has not varied more than three cents per locomotive-mile in 20 years, a range of about 12 per cent.

This particular road is running approximately 125 million locomotive-miles a year with 450 fewer locomotives than it had 20 years ago. In that time, however, the average tractive force per unit has increased 15 per cent and there has been an increase, in total locomotive-miles run, of 50 per cent. There has also been an increase of 68 per cent in the amount spent on locomotive repairs. But, the real "pay-off" from the ability-to-earn standpoint is in two most important factors, namely (1) that the 15 per cent greater tractive force, with tremendously increased boiler capacity has made possible the hauling of greater trainloads at higher train speeds and (2) that each one of over 3,000 locomotives owned by the road in question is averaging 37,800 miles a year as compared with 22,100 miles a year for the motive power of 20 years ago.

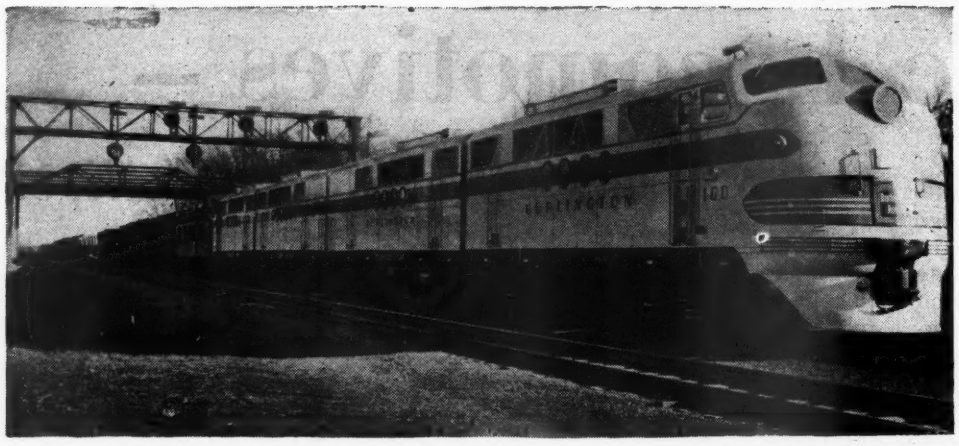
In spite of the significance of such figures as these as indicators of the trends in progress over a period of years there has come into recognition, within the past five years, the discovery that many of the traditional standards by which we have measured the performance of locomotives no longer reveal the true character of the railroading miracle that is going on before our eyes today. That is, the 22,100 miles operated by the average locomotive on that road in 1921 represented more nearly the *actual* annual locomotive mileage than does the *average* annual mileage of 37,800 for all locomotives in 1941. For in 1941 that same road had locomotives, in considerable number, that ran as much as 180,000 miles a year. Only three years later, in this year of 1944, steam locomotives of a still newer vintage have rounded out a 12-month term of service during which over 250,000 miles have been run by individual units.

Progressive as this may seem, it is still greatly overshadowed by Diesel-electric units, in passenger service, that have run up the amazing total annual mileage of over 390,000. Truly, the increase, in the short span of 20 years from an average of 22,100 miles a year to individual totals of 390,000 miles a year, gives one a fair idea that when the story of mechanical progress is being written railway motive power will have contributed a chapter which stands out in bold relief in the history of transportation.

A third factor, while not considered quite as important as the two previously mentioned is that in 1921, the *average* locomotive on the road under consideration made 26,000 miles between shoppings for general repairs while today the *average* locomotive on that road makes over 100,000 miles between general-repair shoppings. Here again, averages are extremely deceiving, for on many railroads modern locomotives, built within the past 10 to 15 years, are crowding 300,000 miles between shoppings.

A fourth factor, the importance of which is a matter

**Modern Steam Power Has High Availability When Properly Used**



**Locomotives Such As These Set High Standards of Performance**

of individual opinion, is that of availability. It is only fair to call attention at this point that were it not for high availability high annual mileages would be impossible. One of the most effective arguments in favor of the Diesel-electric is its high availability—98 per cent—while the best that can be turned in for even modern steam power is around 93 per cent. The 98 per cent availability is common performance for the Diesel and the 93 per cent is decidedly uncommon for steam. Yet, if the use of steam power were handled by the operating departments with as much intelligent study as is Diesel power, almost every less-than-10-year-old steam locomotive on the active list could probably have an availability of better than 90 per cent.

What accounts for the difference in availability between steam and Diesel? The real reasons are pretty well expressed in two rather simple statements: the trip between the inbound inspection pits and the turntable, and, the amount of work on the boiler. Great as the progress has been in the performance of the steam locomotive it still has tied around its neck the millstones of fire cleaning and boiler work.

It is not possible to say that one or the other of steam, Diesel or electric locomotives is the best locomotive to use to handle a train for the reason that a locomotive is but a tool and, like all tools, its real value depends upon the skill with which it is used.

Any locomotive, be it steam, Diesel or electric, is an expensive tool and the fixed charges on the capital invested in it render the luxury of idleness prohibitive. In locomotive utilization it is axiomatic that the more it costs the busier you must keep it. On this basis, if the possibilities for heavy traffic volume do not exist, it will probably prove uneconomical, in the long run, to use expensive motive power. Conversely, the more necessities for idleness existing on a railroad, the cheaper the type of power that should be considered.

In the study of the utilization of motive power today it has been more or less taken for granted that the railroads could not "afford" to replace large numbers of obsolete units for the reason that they were cheap to operate; the "mortgage" had been paid off; they were entirely adequate to serve as emergency and peak-load units and when they had to be white-leaded they didn't eat their heads off in taxes and interest. Any road that had a considerable number of 25- and 30-year-old locomotives out behind the shop awaiting disposition when this war broke out in 1941 can console itself with one thought—the war emergency with its attendant inability to get new power and almost complete disregard of costs will cover up that page in motive power history on which is recorded one of the most costly decisions in modern railroading; namely the decision to get along with what we've got and put the old power back in service. Every mile that is run by a modern locomotive serves emphatically to prove what a serious economic error it is to perpetuate the existence of a 30-year-old unit. By no stretch of the imagination can their use in the post-war period be justified in the handling of main-line traffic on a busy railroad. Like the ox cart on a post-war super-highway they will only stand in the path of progress and tie up traffic.

What of the future of steam, Diesel and electric? The newer electric locomotives with their high acceleration, improved tracking and greater hauling capacity may, under heavy-density traffic conditions, expand their field of usefulness. Some of our best transportation engineers are experts in the electrification field. In studies that are being made now it is quite possible that some of these engineers, facing as they must indications in the conclusions to be drawn from their calculations, may find themselves in the position of having started out to prove the desirability of electrification and wind up proving the value of the Diesel-electric. Both types are basically electric and fortunately such a decision will be free from prejudice.

This alone may serve as an omen of rough weather ahead for steam power. To those whose interests lie in the field of steam power let it be indelibly written here and now if those who exploit and operate the steam locomotive do not find some way to shorten the trip from the inbound inspection pit to the turntable and cut down both the cost and the time required for boiler repairs, the path that the steam locomotive must travel in the days to come will become more and more difficult as its new competitors gain headway.

Two new contestants—the steam turbine and the gas turbine—are about to enter the ring. Time will be required to demonstrate their potential value. What their influence may be no one can predict, but that they both have possibilities no one will deny.

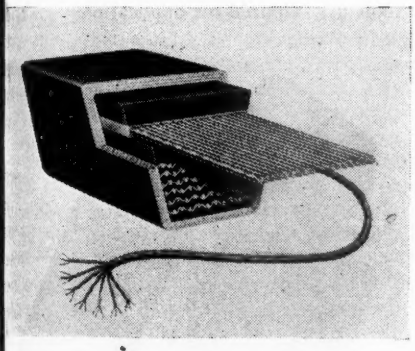
In an article appearing in the current issue of Mechanical Engineering* there is this statement: "Beware of the 'perils of security' in planning your engineering programs. It is one of the fundamental anomalies of human experience that too much preoccupation with the pursuit of security is very apt to lead to greater danger and insecurity. In a competitive world you *must* take chances—bold and courageous chances—or else the other fellow will and he will win out just often enough to keep you running, all out of breath, trying to catch up. So, it behooves you, as an engineering executive to stick your neck out and keep it out by undertaking still development programs. . . . With competent direction any representative engineering organization will work its way out of a tight spot, every time, under pressure of the emergency. If you do not like such 'emergencies,' just remember that, if you do not create your own emergencies in advance, your competition will create them for you at a much more embarrassing time later on."

* The Unwritten Laws of Engineering," by J. W. King, supercharge engineering division, General Electric Company, West Lynn, Mass.

# CAR AND LOCOMOTIVE EQUIPMENT DEVELOPMENTS

## Steel Cable V-Belt

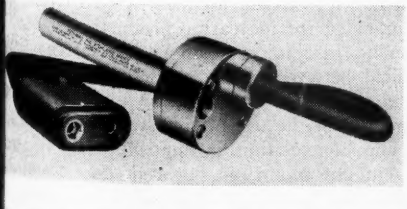
A steel cable V-belt which is said to possess great strength and to be more flexible than cotton or rayon cord is now being employed on a number of railroads. The stretch factor of the belt is practically zero and it is small enough in diameter to fit readily in standard V-belt drives. The roads on which this belting is being used employ it on air compressors, fans, blowers, generators and air-conditioning units. It is a product of the Goodyear Tire & Rubber Company, Akron, Ohio.



**Steel Cable Woven in This Belting Adds Strength and Reduces the Stretch Factor**

## A Journal Box Alarm

A thermoswitch, consisting of a basic element with a forged, bronze head and heavy-duty cable connector is being furnished by Fenwal, Inc., Ashland, Mass., for the detection of overheating in journal boxes as a means of preventing delays and accidents. Basic features of the switch are small-size enclosed contacts, high sensitivity and freedom from the effects of vibration. They are used to signal the engineer that a journal is overheating before a hot box occurs. If the controls are installed on a locomotive, the circuit is made directly to the cab. If the controls are applied to the journals of a passenger coach, they are used to actuate a solenoid in the signal air line on the car to relay the danger signal to the engineer in the cab of the locomotive.

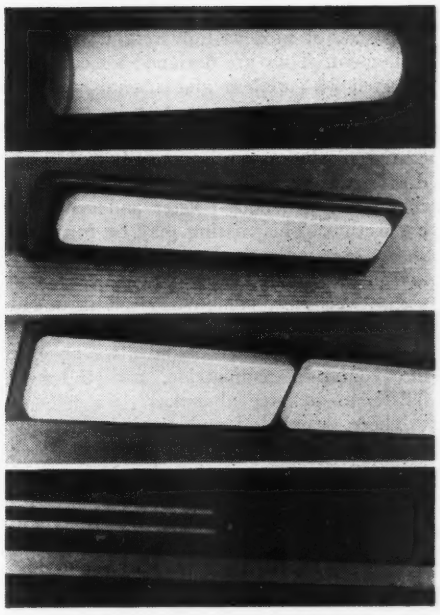


**A Device Which Can Be Installed in Journal Boxes to Give Warning of Overheating Before a Hot-Box Occurs**

## Locomotive Spring Washers

Spring washers made of an alloy steel and known as Locomotive Hy-Chrome Spring Washers are manufactured by the Reliance Spring Washer Division, Eaton Manufacturing Company, Massillon, Ohio. Close control of all manufacturing procedures is said to have resulted in the production of washers which are performing successfully in solving many of the loose bolt complaints in locomotive maintenance. The washers are available in a number of styles intended to give the user a choice in selecting a washer best adapted to the needs of a particular application.

In three years of service testing, approximately fifty bolting locations on locomotives have been found in which the use of spring washers is desirable although it is pointed out that the list actually can be extended to cover all points where bolts are employed. According to the manufacturers the unusual features of this product are the predetermined radius on the inside edges of the washers, close control of free height, gap, and inside and outside dimensions. Made from cold-drawn steel of special alloy analysis, the sections are designed for each bolt size in accordance with their graduated physical requirements.



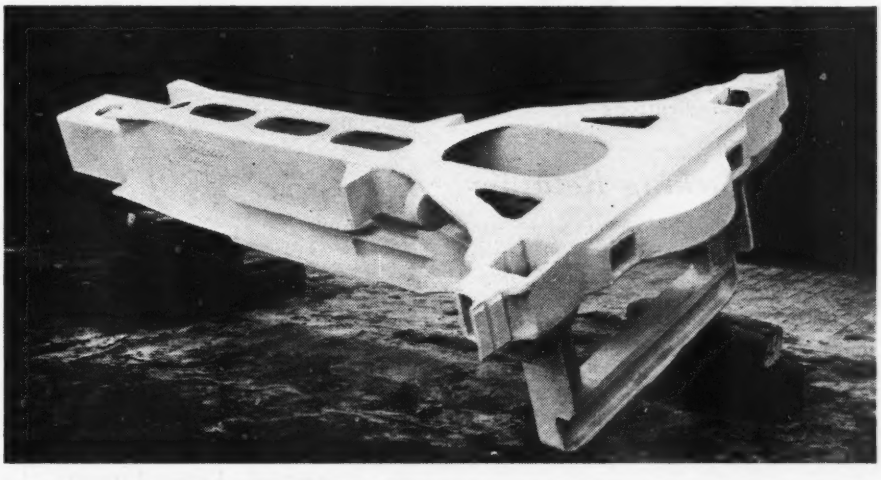
**Four Plexiglas Fluorescent Lighting Fixtures for Passenger Cars**

## Fluorescent Fixtures

A wide variety of fluorescent lighting fixtures with white translucent Plexiglas shades are in the processes of development by the Safety Car Heating & Lighting Company, New Haven, Conn. Four different fixtures are shown in the illustration. The first is a capsule light; the second a wall light; the third a tandem ceiling light, and the fourth is a continuous fluorescent side wall light with combined Plexiglas and sheet metal shade. The plastic material used can be fabricated to satisfy any design requirements and its strength introduces a desirable safety factor.

## Passenger Car Center Sill Castings

The General Steel Castings Corporation, Granite City, Ill., has been furnishing various types of one-piece steel-underframe end castings for passenger cars. These castings have been produced in a number of designs,



**One-Piece Steel Underframe Casting for a Lightweight Passenger Car**

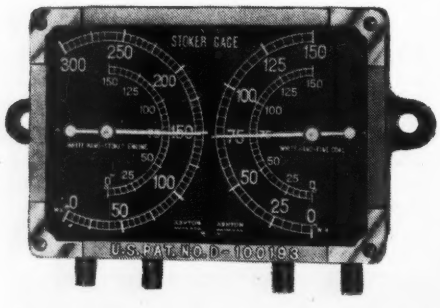
all of which have been furnished and are proposed for modern lightweight passenger equipment. They are designed for cars constructed of stainless and special steels as well as aluminum.

A typical design of platform center sill casting includes an integral buffer beam, draft-gear pocket, end-post connections, center sill, and body-bolster and center-sill connection. This casting may be furnished, if desired, with an integral buffer pocket and integral body center plate. Another design of one-piece combination platform center sill and body bolster casting embodies the buffer beam, buffer and draft-gear pockets, center-sill connection, and the body bolster as an integral unit.

These designs of end castings meet the latest A.A.R. center-sill and end-load recommendations and can be adapted for tight-lock couplers. They are machined for sill connections and have uniform sections with concerted action of all members. The strong integral construction insures safety and reduces passenger-car maintenance expense. The small number of underframe parts required with this type of construction is of particular advantage.

## *Stoker Gage*

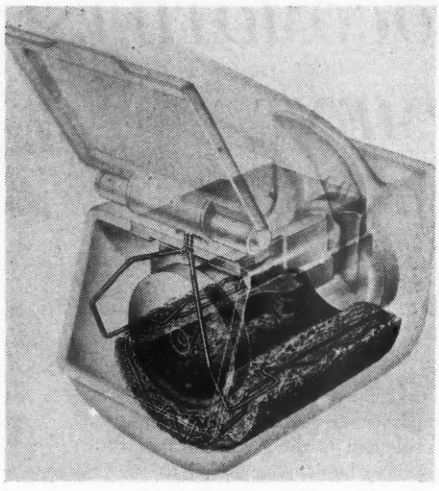
A combination of two duplex gages ordinarily required in stoker service is mounted in a heavy, rectangular dust-proof case, with side lugs for mounting, to make up the stoker gage unit manufactured by the Ashton Valve Company, Boston 42, Mass. Combining the gages in this manner reduces the space required for mounting in the cab. These gage combinations are especially useful with stokers where three or four pressure indications are required. They can be furnished with an illuminating attachment cast integral with the face ring or as shown, without any lighting arrangement.




**Two Duplex Gages Are Mounted in This Frame to Give Stoker Pressure Indications**

## *Spring Packing Retainer*

The Spring Packing Corporation, 310 S. Michigan Ave., Chicago, has made changes in its Hold-Rite packing retainer intended to increase further the efficiency of the device in holding packing properly in place in journal boxes. Extended fingers on the retainer hold packing down for the full length of the journal and prevent it from working forward in the box. It can be used with or without a front plug and, if one is used it can be renewed without removing the retainer.



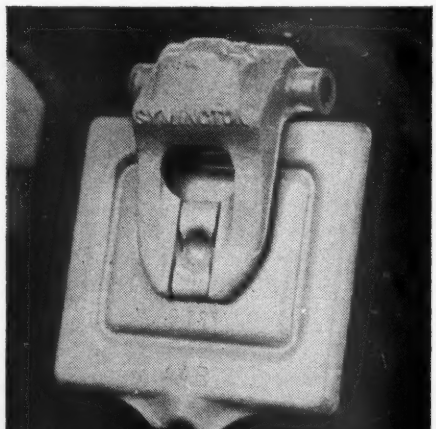
**A Spring Retainer Intended to Hold Packing Firmly in Place**

The retainer is said to reduce the possibilities for hot boxes because the packing cannot roll, loose ends are held down and waste grabs prevented. In high-speed operation or under shocks and jolts in hump yards the retainer is intended to prevent the loosening up or displacement of packing. No changes in standard journal box assembly are required for installation and there is no interference with oiling or the inspection of bearings.

## *Lightweight Journal-Box Lid*

A sturdy lightweight composite articulated center-pressure journal-box lid which is self-adjusting in all directions within the necessary range is being introduced by the Symington-Gould Corporation, Rochester 3, New York. A ball-and-socket center connection is held tight by lid spring pressure, thereby preventing rattle and wear. The closure member is of well-ribbed and flanged pressed steel and the housing is of cast steel or malleable iron effectively enclosing the journal-box hinge lug and providing ample bearing area for the headless lid pin. The spring is of the torsion type equipped with a roller to reduce single lug wear and to insure prompt and positive action.

No tools are required for the application of this lid. It is simply placed in a horizontal position over the hinge lug, the hinge pin inserted, the lid partially closed until the roller is on the highest part of the hinge lug and an assembly hairpin removed by hand. When it is necessary to remove the lid, it is partially opened until the roller is in the position described, the assembly hairpin is inserted, the lid raised to a horizontal position, and the hinge pin removed.



**An Articulated Center-Pressure Lid Fits Firmly About the Box Opening**

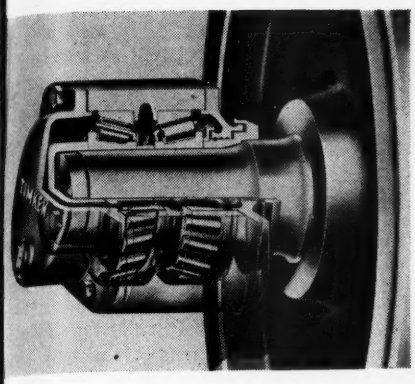
## *Lid for Journal Boxes*

Pressed-steel journal box lids which are made of heavy stock to insure rigidity and to prevent deformation in service are manufactured by the Motor Wheel Corporation, Lansing, Mich., and distributed by the T-R Railway Equipment Company, Chicago. These lids are furnished for most standard size journal boxes and are built with a completely enclosed coil spring for full pressure. The articulated assembly is said to insure complete contact on the face of the box opening. There is complete access to the interior of the box through the 115 deg. opening provided when the lid is raised. No tools are required for application.

**Pressed Steel Box Lid Which Gives a 115 Deg. Opening to the Box**

## *"Middle-Range" Alloy for Cutting Tools*

A cast cutting alloy for "middle-range" machining applications is marketed by the Crucible Steel Company of America, 405 Lexington Avenue, New York 17. This is a non-ferrous cutting alloy, called Rexalloy, intended for increasing production and lowering machining costs in the intermediate field between work which can be serviced by high-speed steel cutting tools and work requiring the use of tungsten carbide tools. The composition is approximately 33 per cent chromium, 44 per cent cobalt and 1 per cent tungsten. It is said to have exceptionally high red-hardness characteristics and to be superior in toughness, shock resistance and resistance to abrasive wear



**Timken Bearing Assemblies Are Available for Both Inboard and Outboard Applications on Freight-Car Trucks**

## Roller Bearings on Freight-Car Trucks

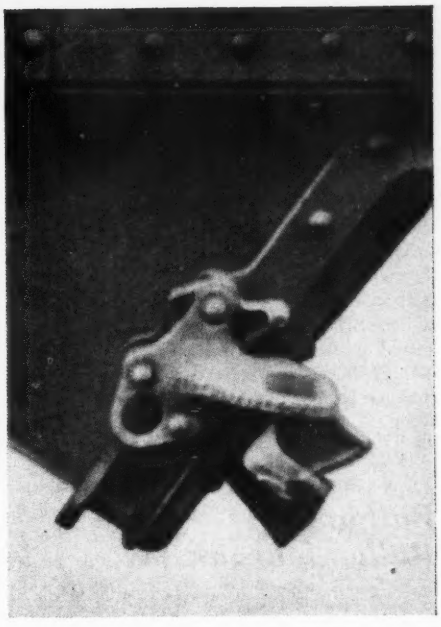
The Timken Roller Bearing Company, Canton, Ohio, has developed a new type of roller-bearing application for all types of high-speed freight-car trucks, both of the inboard and outboard type. These new high-speed freight-car applications have all of the inherent advantages of the roller-bearing applications which have performed successfully for many years under high-speed streamlined trains and all types of locomotives. This company has been testing and operating many designs of roller-bearings for freight-cars for a number of years and the only freight cars in high-speed mainline service equipped with anti-friction bearings are Timken equipped.

One such installation comprising 10 box cars is on the Union Pacific and the cars are used in high-speed merchandise service and at the head end of certain passenger trains. These box cars have been in service four years and ten months, and during this time they have averaged over 4,000 miles per month per car without trouble or delay due to bearings. The average mileage per car is 230,300 miles to date and the highest total mileage credited to any single car is 265,649 miles.

The inboard freight truck with the bearings between the wheels was tested in service under one hundred 70-ton hopper cars with the test results indicating that starting resistance was only slightly greater than low speed rolling resistance. In addition, it was found that resistance was practically the same at all temperatures. Further applications have been made to several hundred 70-ton and 90-ton dump cars used in ore service and on various types of freight cars for military service.

## Hopper-Door Lock

Hopper-door locks manufactured by the Wine Railway Appliance Company, Toledo, Ohio, have been redesigned to incorporate a feature which facilitates the adjustment of door fit and compensates for irregularities in car construction. The spreader extension for the doors now has an eccentric on the inner end as a means of adjusting, quickly and accurately, the clearance between the door and the hopper frame. When it is applied, proper adjustment is obtained by rotating the eccentric before driving the holding rivet. This adjustability is said to add further to the effectiveness of these locks in preventing leakage of lading.



**Hopper Door Lock Redesigned to Insure Tight Fitting Doors on Sawtooth-Type Hopper Cars**

## Branch-Line Locomotives

Small 2-4-2 type locomotives with mechanical drives are being built by the Davenport-Besler Corporation at the Davenport Locomotive Works for branch line service. The use of leading and trailing trucks serves to increase the top speed at which they can be operated to approximately 40 m.p.h. because of the better guiding qualities which are obtained. In addition, larger and heavier engines can be installed because the trucks are able to carry the excess weight and still keep the locomotive within rail weight limits. This has proved to be a desirable factor on foreign railroads and on domestic branch lines where rails and bridges are not as heavy as on main lines.

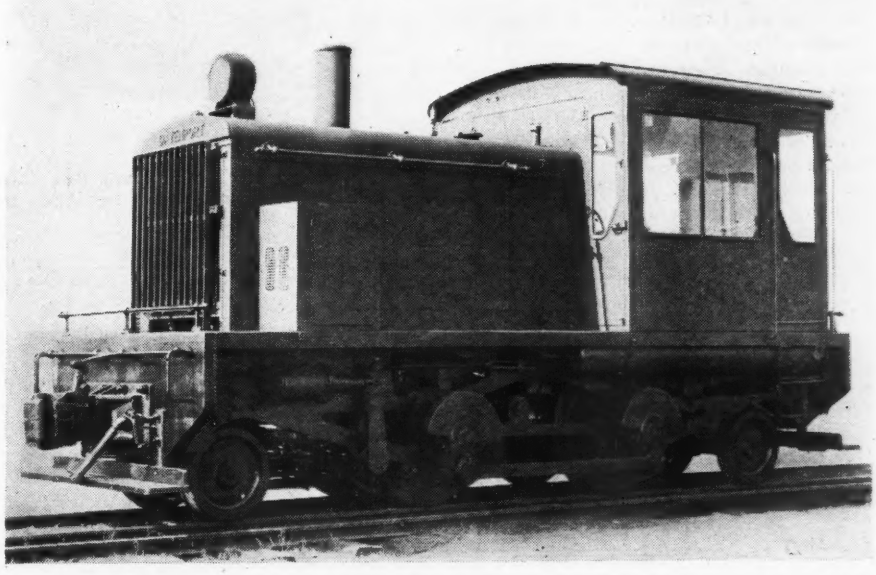
## Composition Flooring

The Tuco Products Company, 30 Church St., New York 7, is recommending the use of its product, Tucolith, in flooring railway passenger cars. This is a light-weight composition flooring material which has been installed as a sub-flooring on many of the most recently built passenger cars. It can, however, be employed without other covering and gives a long-wearing, low-maintenance, non-slip surface which can be attractively laid in single color or two-tone effects, with or without inserts of tile. It is available in the following colors: dark red, brown, blue gray, green, yellow and black.

## Shutter Control for Diesel Locomotives

A pneumatically operated temperature-control system designed to control Diesel-electric engine cooling-water systems accurately by modulated shutter operation is now being offered by Minneapolis-Honeywell Regulator Company, Minneapolis, Minn. This control system has been applied to several types of road Diesel-electric locomotives under actual road operating conditions for the past eight months.

The system consists essentially of a thermostat the temperature-sensitive element of which is inserted in the water stream in a convenient location. Pneumatically operated motors position the shutters at the demand of the thermostat and the system is designed so that a single thermostat can operate several shutter motors, either in unison or in sequence. In general the basic system of shutter control consists of a thermostat for each engine and a sufficient number of motor operators to control the intake shutter, or shutters, for that engine. In event



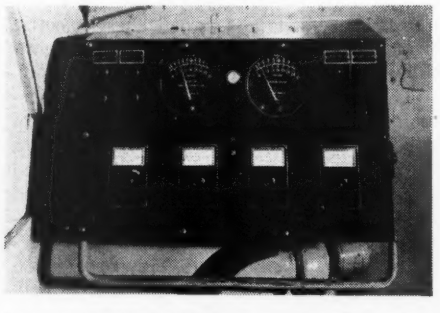
**The Use of Leading and Trailer Trucks Has Added to the Top Speed at Which This Locomotive Can Be Operated**

the oil system is independently controlled, a second thermostat is used for each engine. A manual-automatic switch is provided as a means for manual operation.

A basic control system for one type of locomotive is illustrated and it will be seen that it is possible to add to the basic system, for example, for the control of roof shutters, with no change made in the system. In event roof shutters are used, it is usually desirable to operate the roof and side shutters in sequence, opening the roof shutters first, then the side shutters.

On some railroads it is found desirable to have visual indication in the cab, of approximate engine water temperature conditions, in which case a cab panel is used. When the cab panel is installed the manual-automatic switches are mounted thereon, as well as temperature indicating lights for the engines. With the cab panel it is necessary to use a second thermostat for the purpose of turning on the lights as the engine temperatures vary. This provides no light in the panel for engine temperatures below 145 deg. F., a green light between 145 deg. F. and 180 deg. F. and a red light for engine temperatures above 180 deg. F. It is possible to add a cab panel to the basic system making no changes in the system itself.

This control system is air operated and air to operate the system is taken from the main reservoir tank and reduced through two stages of reduction to 18 lb., which is



**Visual Cab Indicator to Show Engine Temperature**

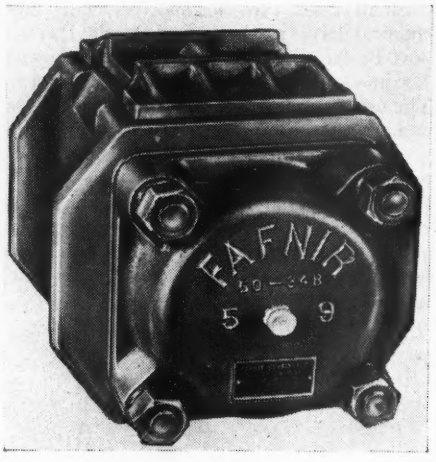
the operating pressure of the system. This system is so arranged that in event of failure of air supply to the control system, the shutters will all go to the "fail safe" of fully open position. They are then in a position to be operated by hand. By means of a manual-automatic switch, shutters may be either opened or closed by hand, or control may be taken away from the thermostats entirely and they may be operated by hand, without changing any part of the linkage.

Actual road tests with recording thermometers reveal that with this control system, engine water temperatures are held to within 4 to 6 deg. of the thermostat setting regardless of changing load conditions. The control point of the thermostat can be set to maintain temperatures anywhere between 145 deg. F. and 175 deg. F. However, the thermostat will stand a maximum temperature of 225 deg. F. without damage. The shutter operator motors are so arranged that in event of a stuck shutter no damage will result to the motor when stalled. Under actual winter operating conditions there is enough movement in the intake shutters so that ice formations will not become troublesome.

## *Ball and Roller Journal Box*

Two improvements in its ball and roller journal box recently announced by the Fafnir Bearing Company, New Britain, Conn., are a design change which makes it possible to reverse the housing both horizontally and vertically and doubles the wear life of the box, and a convenient cap which can be easily removed, making it possible to check lateral clearance without removing the entire cover.

The newly designed box has the same lateral clearance as other types of Fafnir journal boxes to improve riding qualities and reduce shock impact. Positive lubrication is maintained at all speeds. Dirt and water are sealed out. The assembly is adaptable to Standard A.A.R. pedestal openings. Inner rings need not be removed at wheel turning periods.

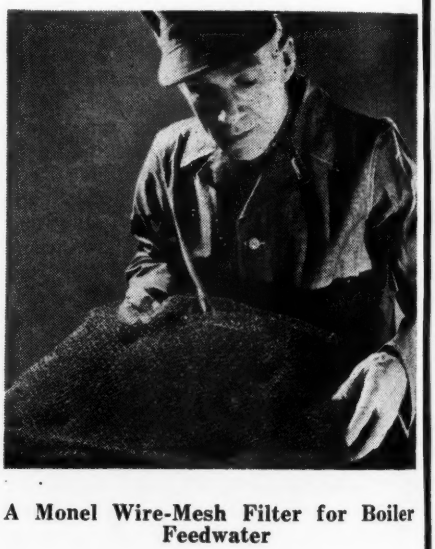



**The Housing of This Journal Box Can Be Reversed Completely to Add to Service Life**

## *Metal Filter for Locomotive Feedwater*

Pads of Monel wire-mesh cloth are now being used to filter oil, grit, and scale from locomotive feedwater. Placed over the feedwater outlet of the tender, the new pads give free flow through 100 sq. ft. of filtering surface, although they are only 14 in. by 20 in. in size. They replace such filtering mediums as sponges, coke, and turkish toweling.

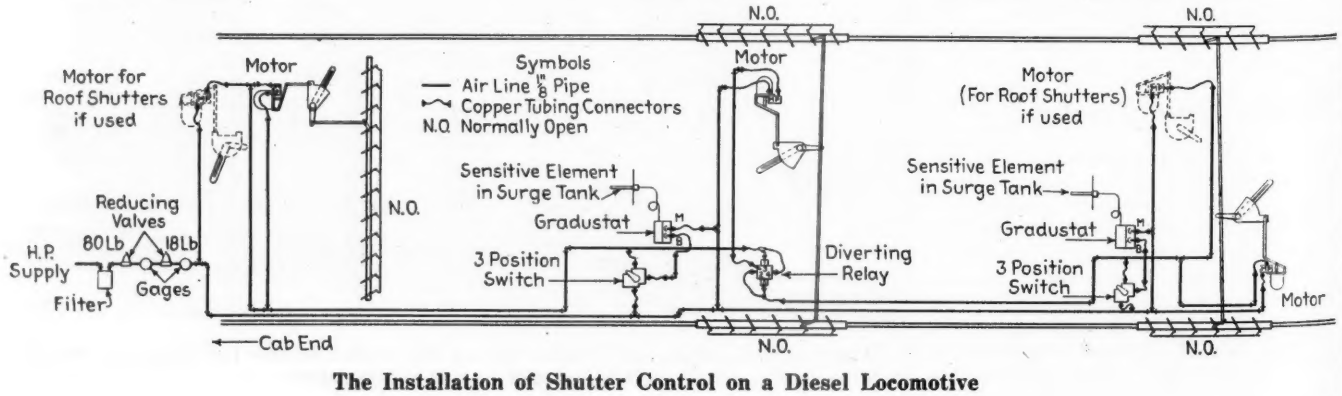
The pads are formed of folded mesh knit from .006 Monel wire by the Metal Textile Corporation, Orange, N. J. They are readily cleaned by steam or any oil solvent and they may be re-used many times.



**A Monel Wire-Mesh Filter for Boiler Feedwater**

## *Increased Rim Thickness on Chilled Car Wheels*

The A.A.R. Committee on Wheels has approved an increase in the thickness of rims on 750-lb. and 850-lb. chilled car wheels to be introduced as experimental standards until March, 1945, after which the new rims will become regular A.A.R. standards if results in the experimental stage are satisfactory. This approval was given after




**The Installation of Shutter Control on a Diesel Locomotive**

experiments made by the Association of Manufacturers of Chilled Car Wheels, Chicago, and tests indicate that the increased thickness and changes in radii add an average of 30 per cent to the strength of the rim in static as well as impact loading. This increased strength is obtained not so much from the mere addition of metal, but by reason of the fact that the changes in this detail of the design afford better control of the shrinkage, and provide a desirable backing of gray iron, which increases the ability of the section to withstand the service shocks.

Ordinarily, rim defects, if any, develop late in the life of a wheel or when the wheel is very nearly worn out and it is expected that the change that has been authorized by the A.A.R. Committee on Wheels should further lengthen the average service life of wheels.

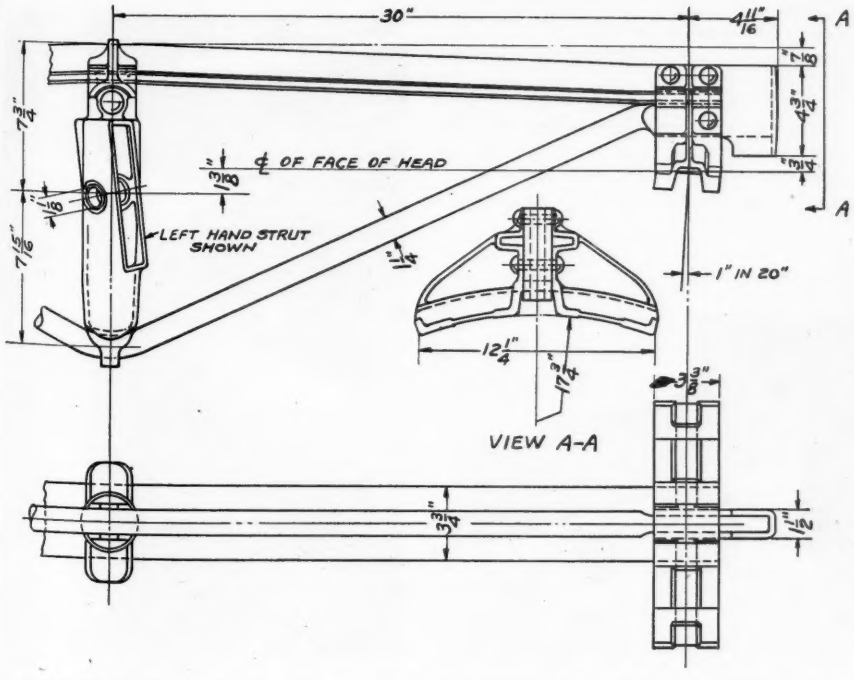
## Redesign of Unit Brake Beam

Unit brake beam which follows the original style generally but which has certain basic improvements which were considered desirable after analyzing and checking beams that have been in service for the past seven years will be furnished after July 1, 1944, by the Unit Truck Corporation, 140 Cedar Street, New York.

The cruciform rolled section of the new beam has been redesigned increasing the vertical flange depth from 3 in. to 3¾ in. This broad vertical flange is now extended completely through the brake head thus eliminating the drop forging of the section under the brake head. The brake-beam wear plate has been redesigned to accommodate it to the new section and the brake-head design. It is slotted out under the brake head sufficiently to surround the flange of the brake beam section and is forged to a pressed fit to the end of the brake beam.

The brake head has likewise been redesigned to surround completely the vertical flange of the brake-beam section and is attached thereto by three rivets which also hold the wear plate in position.

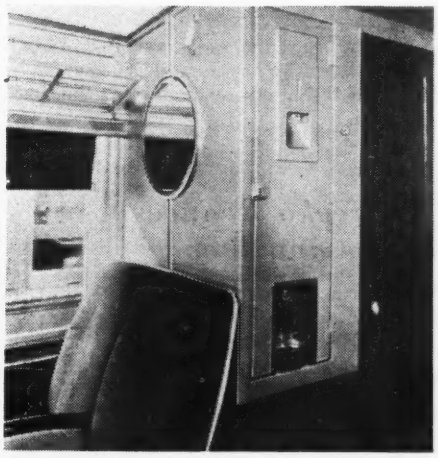
This new Unit brake beam is interchangeable in all general dimensions with the original type.




**Unit Brake Beam Redesigned to Include Deeper Vertical Flange and Other Detail Changes**

## Drinking Cup Dispensers

Dispensers for either flat or round type drinking cups which are designed particularly for use in modern passenger cars are manufactured by the Logan Drinking Cup Company, Worcester, Mass., a division of the United States Envelope Company. These dispensers are of the recessed or panel type for mounting in the walls or partitions of a car, the delivery panel of the dispenser being flush with the wall or partition. They are made of pressed steel and require no special structural provision in the car design to permit their installation.



**Flush Mounting of Drinking Cup Dispenser in a Modern Passenger Car**

## Odor Adsorber

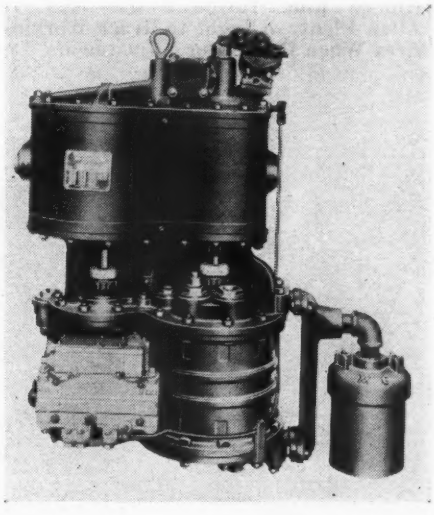
In connection with air-conditioning systems on railroad passenger cars, the Tuco Products Corporation, 30 Church Street, New York 7, has introduced Dorex Odor Adsorber panels which are a series of perforated metal tubes filled with activated coconut shell carbon. This type of charcoal has demonstrated its efficiency in gas masks used by the government and is said to be effective in reducing odor levels to a pleasant condition. This saves a high percentage of the intake air which automatically reduces the initial cost of equipment and the operating cost of the air-conditioning systems.

Mounted in the re-circulated air line a number of these panels are now in operation on the passenger cars of several railroads and are said to be doing an effective odor-adsorption job, at the same time producing savings in cost of operating air-conditioning systems because of the reduction in the amount of outside air required.

## Compressor Has Integral Governor and Lubricator

The Westinghouse Air Brake Company, Wilmerding, Pa., is now in production on an 8½-in locomotive air compressor equipped with an integral A type governor and an F-2 mechanical lubricator. The governor is located on the top head and the mechanical lubricator on the air cylinders. Integral mounting of these auiliaries simplifies installation and maintenance as considerable piping and fittings associated with independent mounting are eliminated.

Only one short oil tube is required, injecting mist lubricating to the steam end for the governor, steam valve, compressor reversing gear and steam cylinders. This, in



**Locomotive Air Compressor Which Has Integral Governor and Mechanical Lubricator**

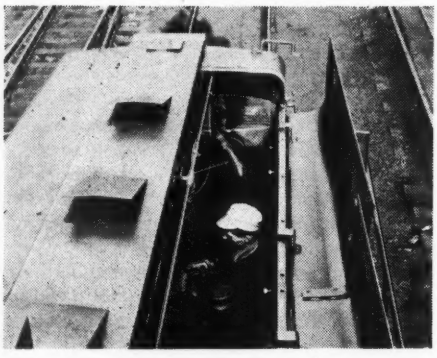
turn, leads to simplification of the lubricator as only three feeds are required. The two feeds for the air cylinders are cored internally through the mounting pads and the third feed supplies the entire steam end through the single oil tube.

Clearance limits are observed, making these improvements available for compressors now in service. Current shipments of air cylinders on all compressors, including maintenance cylinders, have provision for later mounting of the F-2 mechanical lubricator.

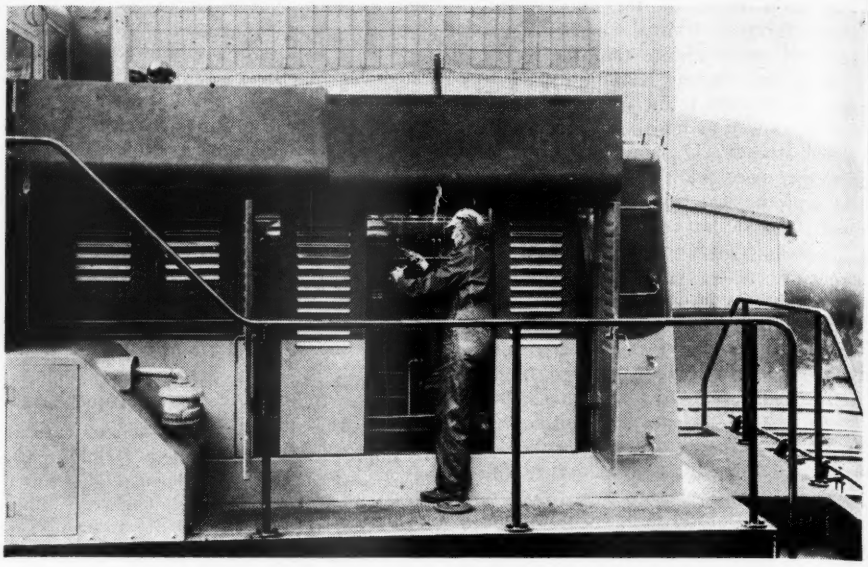
## *Hood and Doors for Porter Diesel Switchers*

Easy access to engines and power plants of Diesel-electric locomotives is now possible through a hood construction and door arrangement introduced by H. K. Porter Company, Inc., Pittsburgh, Pa., on its locomotives. Full double-door openings permit a large working area in which ample light for maintenance or repair is provided by a free swinging hood. This frameless hood is constructed entirely of formed sheets, eliminating angles and stanchions, and affords unobstructed access to the power plants.

As a further improvement, Porter has also developed a radiator shutter system whereby any number of shutters may be removed without dismantling the entire radiator frame to reach the radiator cores. This is accomplished by loosening a fastener on the individual shutters and sliding them from position.



**Hinged Roof Hoods Swing Back to Allow Plenty of Light to Reach Working Area When Repairs or Adjustments Are Needed**



**A Sliding Door Arrangement Gives Easier Access for Repair or Maintenance Work**

## *Fabreeka Reduces Noise and Wear*

According to the manufacturer, Fabreeka Products Company, Inc., Boston, Mass., the use of Fabreeka at certain critical points in car trucks contributes materially to the reduction of mechanical wear and to prolonging the life of pasenger car springs and other truck parts through reduction in metal fatigue. Fabreeka is commonly applied at the top and bottom of the coil springs, the top and bottom of the elliptic springs, the center plates, center-bearing bridges, side bearings, and bolster and transom wear plates. Its use at these points is primarily to increase passenger comfort through the reduction of vibration and noise within a car. In addition, the reduction in mechanical wear through the cushioning of high frequency vibrations and the softening of impact blows is said to reduce repair costs and to add to the useful life of equipment.

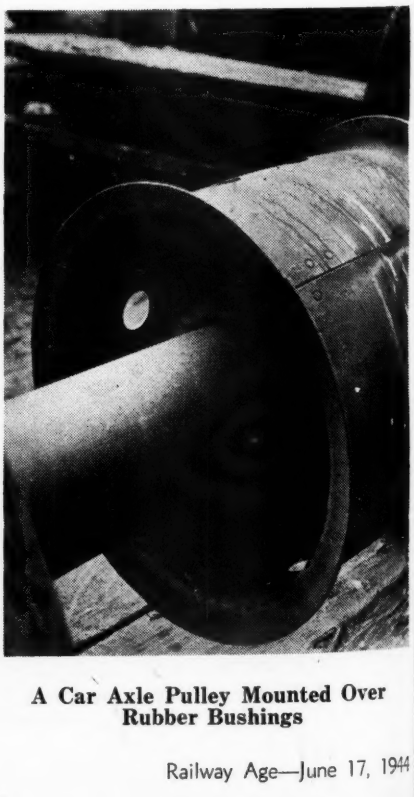
FABREEKA UNIT FOR ELLIPTIC SPRINGS
FABREEKA SIDE BEARING PAD
FABREEKA PAD FOR TRANSOM WEAR PLATE
FABREEKA STEEL UNIT FOR EQUALIZER SPRINGS
FABREEKA SIDE STEM BUSHINGS
FABREEKA BUSHINGS FOR BOLTS

**Fabreeka Parts for Truck Applications—Some Have Been Molded to Shape and Others Are Vulcanized to Steel Shapes**

## *Rubber Bushing for Car Axle Pulleys*

The Dayton Rubber Manufacturing Company, Dayton, Ohio, has developed a rubber bushing designed to facilitate the application of axle pulleys, to prevent pulleys from becoming loose, to eliminate rejection of axles due to marking and scoring by metal bushings, and to act as a rust-proof cushion. These bushings are said to be easier and quicker to install than metal bushings because both bushing and pulley are applied in one operation.

No bolts, clamps or cement are required in their application to the axle; the bolts of the axle-pulley halves hold the bushing in place.



**A Car Axle Pulley Mounted Over Rubber Bushings**

# Stronger Viaducts for War Traffic

**Nickel Plate strengthens five structures aggregating nearly a mile in length to remove restrictions on the operation of heavy power on 250 miles of main line**

*This Viaduct Is Typical of Those Involved in the Reinforcing Program*

TO PERMIT an important section of its main line to be opened to its heaviest locomotives, the Nickel Plate has completed an extensive bridge improvement program involving the reinforcing of the girder spans in three steel viaducts having a combined length of nearly 3,000 ft. and the strengthening of the towers in two others totaling more than 2,000 ft. in length. Aside from its scope, this program is of interest because of the fact that the girder reinforcement work was done by a process of substitution involving the removal of a span, its replacement with a span previously reinforced, the strengthening of the span removed, and its reinsertion in the bridge to replace another span to be reinforced, and so on. In this way, it was possible to remodel the girders in the clear without interference from traffic, while the work of installing the individual spans could usually be done between trains so that there was little or no interference with traffic.

### Old Viaducts Excluded Heavy Power

The main line of the Nickel Plate extends westward from Buffalo, N. Y., with one line going to Chicago and another to St. Louis, Mo. For some time, the company had been operating Class S (2-8-4) locomotives on its western districts, but that part of the main line between Bellevue, Ohio, and Buffalo, about 250 miles, was closed to these locomotives because it contained five long viaducts that were incapable of carrying them. All these viaducts were built in the period from 1902 to 1905 and were designed to carry Coopers E40 loading. They are all single-track structures, consisting of deck-girder spans carried on structural steel towers. For the most part, the viaducts have 30-ft. tower spans and 60-ft. main spans, although in several of the structures there are a number of main spans that are longer or shorter fhan 60 ft.

The most westerly of the viaducts is a structure 1,310 ft. long extending across the valley of the Grand river near Painesville, Ohio. Proceeding eastward, the next viaduct is an 821-ft. structure extending across Ashtabula creek at Ashtabula, Ohio. Next, to the eastward, is a viaduct extending across Elk creek near Girard, Pa. This structure is 1,470 ft. long, and in addition to seventeen 30-ft. tower spans and thirteen 60-ft. main spans, it has two 50-ft. spans and one 80-ft. span, the latter extending across the creek. Beyond Girard there is a viaduct 870 ft. long, extending across Walnut creek near Swanville, Pa., which has nine 30-ft. and ten 60-ft. spans. The most easterly of the five viaducts extends across Chautauqua creek near Westfield, N. Y. This structure has fourteen spans, including six 30 ft. long in the towers, six 60 ft. long, one 30 ft. long at one end, and one 22 ft. long at the other.

### Features of the Bridges

In the viaducts at Painesville and Ashtabula, the girders were originally designed for a unit stress of 15,000 lb. per sq. in., and it was found that under present-day rules for rating existing bridges, these girders were capable of carrying the S locomotives at speeds up to 45 m.p.h.

On the other hand, analysis of the towers indicated that

they would have to be strengthened before the heavy locomotives could be operated.

In the other three viaducts, a program of strengthening the towers was carried out in 1933-34, which rendered them capable of carrying the S locomotives, but no work was done on the girder spans at that time. Unlike the bridges at Painesville and Ashtabula, the girders in the three other viaducts could not be rated up sufficiently to permit heavy locomotives to be operated over them. In 1941, heavy repairs were made to the lateral bracing of the three viaducts, and the cap plates and sole plates were renewed, but no strengthening work was done on the girders themselves.

With the growth of wartime traffic, it became more than ever necessary, in the interests of operating efficiency, that steps be taken to permit the S locomotives to be operated between Bellevue and Buffalo. As indicated above, the work to be done to make this possible included the strengthening of the towers in the viaducts at Painesville and Ashtabula, and the reinforcing of the girders in the structures at Girard, Swanville and Westfield. In the latter three structures, it would have been most economical to renew the girders outright but this was not practicable because of the shortage of steel. In its application to the War Production Board for permission to carry out the reinforcing work, the railroad was able to present convincing arguments in behalf of the project, with the result that the necessary authority and priority ratings were granted.

## Sixty-Six Girder Spans

The work of reinforcing the girders in the viaducts at Girard, Swanville, and Westfield comprised by far the most important phase of the undertaking. These three viaducts comprise 66 girder spans, including thirty-three spans 30 ft. long; twenty-nine 60 ft. long; two 50 ft. long; one 80 ft. long; and one 22 ft. long. A feature of the 30-ft. and 60-ft. spans was that all those of each of these lengths were identical in every respect and, therefore, interchangeable. This fact led to the decision to carry out the work in the manner described briefly at the outset, namely, by substituting newly-reinforced spans for existing spans, reinforcing the spans so released, and reinserting them in the bridge in place of other spans to be reinforced.

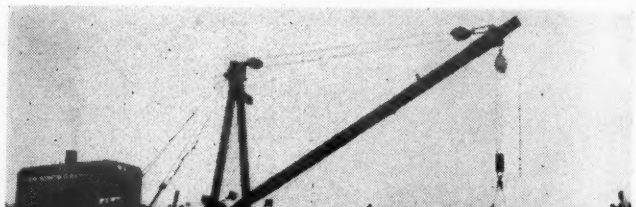
## Nature of Reinforcing Work

To do the work in this manner, it was necessary in the beginning to provide two extra spans, 30 ft. and 60 ft. long, respectively. Fortunately, the railroad had available a second-hand 60-ft. span which, originally designed for E40 loading, was reinforced and used for this purpose. However, it was necessary to purchase one new 30-ft. span. It was also necessary to acquire a new 50-ft. span, which was inserted in the Girard bridge in place of one of the two spans of this length, which was then strengthened and reinserted in place of the other. The 80-ft. span in this bridge was reinforced under traffic by the application of side plates to the girder webs and by strengthening the web splices. In the bridge at Westfield, the 22-ft. span at one end, with girders of the same depth as those in the 60-ft. spans, did not require reinforcement, while the 30-ft. span at the other end had been renewed some time ago, and did not need further attention at this time.

In all of the three viaducts requiring girder reinforcement, the steelwork generally was in good condition, with the exception of the exposed portions of the top cover plates, which had suffered considerable loss of section owing to corrosion from brine drippings. The 60-ft. girders had the top and bottom flange sections reinforced, and, in addition to renewing the corroded portions of the cover plates in the top flanges, it was also necessary to add end and intermediate stiffeners, the web section having sufficient area to require no reinforcement.

As originally designed, the 60-ft. girders had two cover plates, top and bottom. In the remodeling work, the existing cover plates on both flanges were removed by cutting and backing out the rivets with a rivet buster, and the flanges were rebuilt with three cover plates by the combined use of the old and new plates. For the top flange, the first cover plate was a new plate, full-length; for the second cover plate, the exposed portions of the

**Rivets Holding the Old Cover Plates Were Removed with a Pneumatic Buster**



**The Spans Were Handled by a Steam-Driven Self-Propelled Derrick Car**

**The Strengthening Work at Each Viaduct Was Done Beside the Track Near One End of the Bridge**

old first cover plate were burned off at each end and replaced with new plates to give the desired length and were butt-welded to the old plate; the third plate was a new plate of sufficient length to project beyond the welded joints of the second cover plate at each end.

For the bottom flange of each 60-ft. girder, the first cover plate was a new plate and the existing two cover plates were replaced to form the second and third cover plates. Both flanges were re-riveted, except for a portion at each end of the first bottom cover plate. In this case, the new cover plate was longer than the old cover plate, and to eliminate the necessity of drilling holes in the flange angles for riveting the extra length of plate, these plates were welded to the flange angles with $\frac{5}{16}$-in. continuous fillet welds. All end and intermediate stiffeners were welded to the girders with ¼-in. continuous fillet welds.

The 30-ft. girder spans were of the same depth as the 60-ft. girder spans, having the same web section, with ½-in. cover plates on both flanges, the top cover plate running full length. The reinforcing was done by replacing the existing ½-in. cover plate on the top flange with a ⅞-in. cover plate; the bottom flange was not changed. The end stiffeners in these spans were reinforced by welding additional stiffeners to the girders with ¼-in. continuous fillet welds.

In both the 30-ft. and 60-ft. spans, some of the gusset plates for the lateral bracing required renewal, and in these cases the new plates were cut from the webs salvaged from old girders, this being necessary because of the lack of new steel. Incidentally, in fabricating the new cover plates, the holes were drilled full-size, that is, $\frac{15}{16}$ in. for ⅞ in. rivets, and it was found that very little reaming was necessary when applying the plates.

### How the Work Was Done

In remodeling the spans, the practice was to do the work as closely as possible to the particular bridge, the girders being placed on "bunks" so located that they could be reached from the main track. A steam-driven self-propelled derrick car with a 50-ft. boom was used for handling the spans. When changing out a span, the first step was to remove the track and guard rails to adjacent parts of the bridge, leaving the ties in position. After this, the crane lifted out the old span, carried it to the work site at the end of the bridge, and then replaced it with a remodeled span.

When the work was started, it required 1 hr. 30 min. to replace the first 60-ft. span, from the time the last train passed over the bridge until the track was again ready for service. With practice, this was later reduced to an average of about 1 hr. 15 min. The 30-ft. spans required about 1 hr. At all three bridges, the work of changing out the spans was started at the west end and carried progressively across the structures. When the work at each bridge had been finished, the extra spans (one 30 ft. and one 60 ft.) were remodeled and used to start the work at the next bridge, or in the case of the last viaduct to be finished, the extra spans were stored for further use.

### Procedure at Girder Bearings

When changing out each of the old 60-ft. spans, the practice was to remove the guide bars at the expansion end, and to burn off the heads of the rivets holding the lower flanges to the sole plate at the fixed end. After the span had been removed, the shanks of these rivets were burned off flush with the top of the sole plate. When reinserting the span, the guide bars were replaced at the expansion end, and the girders were fastened at the fixed end by fillet-welding the edges of the lower flanges to the sole plates and by plug-welding the rivet holes in the flanges.

In the 30-ft. spans both ends were fixed, and these spans were loosened by burning through the sole plates along a line on each side of the girders at each end. When the old span had been removed, the severed edges of the sole plates on the cap were trimmed back about ¾ in., and when the remodeled span was inserted the edges of those parts of the sole plates that remained attached to the girders were fillet-welded to the cap plates. Seal welds were placed along those edges of the sole plates that had been trimmed back, and the ¾-in. grooves were filled with a bituminous mastic to exclude water. In the beginning there was some concern that it might be difficult to burn through the sole plates without damaging the cap plates under them, but it was soon demonstrated that this fear was unfounded.

When the towers in the viaducts at Girard, Swanville and Westfield were reinforced about a decade ago, the desired additional strength was obtained by welding plates to the columns, and by introducing horizontal struts in such a manner as to reduce the unsupported lengths of the column. In the more recent tower-strengthening work at the Painesville and Ashtabula viaducts, structural angles were used to reinforce the towers. For convenience in erection and to save steel by making it possible to use reduced angle sections on the upper portions of the columns, the angles were applied in short sections.

The recent work did not include the application of additional horizontal struts to the towers in these bridges, but a project to apply such struts in the near future is now under consideration.

The Ferro Construction Company, Chicago, had the contract for performing all work connected with strengthening and erecting the girder spans in the viaducts at Girard, Swanville and Westfield. The strengthening of the towers in the Ashtabula viaduct was performed by the Hallen Welding Service, Inc., Long Island City, N. Y., while the tower work at the Painesville bridge was carried out by Teleweld, Inc., Chicago.

## *Postwar Jobs--Whose Responsibility?*

"'Full employment' has become a political slogan. Everyone seems to be for it without much analysis as to what the term really means or whether the objective is attainable anywhere outside of regimented areas—the penitentiary, naziland, or a tightly-planned and rigid society. . . .

"We should not conclude that *jobs* are an end in themselves. They are merely a means to an end—production of goods and services. Adequate job opportunities are a by-product of an adjusted and effectively-functioning economy. . . . An adequate supply of job-opportunities must flow out of a balanced economy in which businesses can expand and new ones can be created. Geographical mobility of labor, retraining of workers, wages adjusted to demand, competition in the goods market, sound business tax policies—all of these, and others, are the essentials for an effectively-functioning economy. . . .

"We need more job-makers and job-creators, but the individual businessman has no more, and no less, responsibility for adequacy of jobs than have our powerful labor unions, government bureaus, legislators, and all other persons and groups who are shaping our economic policy, upon which adequate job-opportunities are dependent."

*—Emerson P. Schmidt, in a pamphlet entitled "Full Employment—Its Politics and Economics," Published by the Chamber of Commerce of the United States.*

# *Here's a "Managerial Revolution"*

**The ability of the railways to move the present volume of war traffic, without significant increase in facilities, is ascribable, of course, to the large investment which their favorable credit enabled them to make in the '20's — but a contributing factor of special importance and novelty has been the elaborate plan of customer co-operation painstakingly developed during 27 years**

By J. G. Lyne

Part II

*This is the concluding installment of an article, the first part of which was published in last week's Railway Age.*

THE regional Shippers Advisory Boards meet quarterly, with representative railroad officers (who, incidentally, are not "board" members) in attendance, to discuss questions of mutual interest in the supply of transportation. They do not concern themselves with controversial matters, such as rates—restricting themselves to subjects where carriers' and patrons' interests are mutual, which is probably the primary explanation for their noteworthy success. Each board has "commodity committees," comprised of leading shippers or receivers of each commodity of importance in the territory; and each of these commodity committees is the body which, consulting within itself, makes the advance estimates of what its requirements for freight cars are going to be.

### Railroads Aid, But Do Not Direct, the Boards

The district manager for the Car Service Division provides secretarial service for the Shippers' Board in his region and otherwise serves as a point of contact for the members in the intervals between the quarterly meetings. The board members, however, select their own officers and conduct their affairs in their own way—the relationship of the Car Service Division staff and of other railroad officers being one of service and not of control. The railroads in the region have a "contact committee" of officers, to whom any board member may refer a complaint he may have of railroad service, concerning which he has been unable to get satisfaction from an individual railroad.

With their contacts with shippers through these regional boards, officers of the railroads and of the Car Service Division are at all times right down to the very "grass roots" of the market for transportation; and the information thus constantly available prevents them from ever having to deal with unforeseen factors of any importance. The staff of the Car Service Division has been enlarged as the needs for its further services were revealed in maturing relations with patrons through the Shippers Boards. Numerous minor transportation crises —floods, bumper crops, the Florida boom—were successfully met by the railroads in the 'Twenties and 'Thirties, and an organization was perfected, with relationships established, capable of dealing with any conceivable crisis in transportation. Since 1937 the regional Shippers Boards have had a national association—a meeting ground for centralizing their functions on a nation-wide scale.

### No Improvising Required When War Came

The intimate and systematized contacts with users of railway service, developed through these Shippers Boards —and experience gained by the Car Service Division in mobilizing rolling stock, issuing embargoes, and otherwise meeting the exigencies of smaller emergencies—prepared the railroads fully to meet the rapidly accelerated demand for transportation which began in 1939 and has continued ever since. No new organization or method had to be improvised to deal with these new conditions—the organization and the system were already fully in existence; nothing was necessary except to expand operations as the need arose.

On July 1, 1940, 17 months before Pearl Harbor, a Military Transportation Section was established by the Car Service Division, with its offices in the War Department, and a beginning was then made of putting into actual practice with the armed services the same kind of co-operation already established with private transportation patrons through the Shippers Boards. The subsequent record which has been established in the movement of service personnel and military supplies, as well as civilian goods for use of the armed services, has grown out of the intimate contact with the services which this railway office, housed right in the War Department, has developed.

In 1939 a Port Traffic Section was established by the Car Service Division to control the movement of export freight, and the operations of this section have expanded as the need has grown—with the result that the congestion which so badly tied up the railroads in 1917 has not recurred, under an infinitely heavier load. The Traffic Control Division of the Army's Transportation Corps has been a large factor in the success of keeping the movement to the ports in hand, because of its possession of authority, which the railroads do not have of themselves, to issue orders timing movements of military traffic.

This Port Control Section operates on two simple principles: (1) to prevent cars being loaded until provision is made for unloading them; (2) if some port facilities become congested, it diverts the traffic to others.

Of the greatest assistance also have been the Bureau of Service of the Interstate Commerce Commission and the Office of Defense Transportation—because these governmental bureaus have legal power which the railroads do not, to divert traffic in emergencies to routes other than those specified by shippers, and otherwise to subordinate the temporary interests of an individual railroad to that of the nation as a whole.

It is highly significant that the coercive powers of the I. C. C. and O. D. T. are exercised merely to supplement, as may occasionally be found necessary, the vast voluntary system of control of car service established by the

railroads themselves, with the co-operation of their patrons. The O. D. T.'s most noteworthy contribution to car efficiency has been its orders directing the heavier loading of cars. The system, as outlined in the foregoing, affords the very maximum of centralization—as far as information and guidance are concerned—but officers of individual railroads and representatives of shippers are "in on" all the decisions made by the central authority, and, hence, seldom have to have any pressure exerted upon them to secure their willing compliance to its directions.

### Control Thoroughly Democratic

Conforming to democratic principles—being participators in the "government" of car supply—the individual railroads and shippers yield informed and willing compliance to its orders. The Shippers Boards have established hundreds of local "car efficiency" and "vigilance" committees whose function it is to police the use of cars by railway patrons—to discourage their unnecessary detention, and to induce consignees to remove all debris so that cars, when released, will be ready for immediate loading.

In sum, the formula for car and traffic control which has produced such a "miracle" of transportation performance in the present war, as compared to the preceding one, may be expressed as follows: A far greater degree of informed, centralized control than that which obtained in the last war; combined with the intelligent collaboration of thousands of individual (military and civilian) users of the service—a collaboration which, if it can be said to have existed at all during the last war, was present only in an extremely rudimentary form.

With all this preparatory groundwork having been accomplished, the system went fully into action many months before Pearl Harbor. The Army arranged to provide the Association of American Railroads with a memorandum of every construction contract it awarded, giving the name of the contractor, the size of the project, and its location. Shortly thereafter, each such contractor was visited by the district manager of the Car Service Division in his area, who secured from him a schedule of his transportation requirements and advised him as follows:

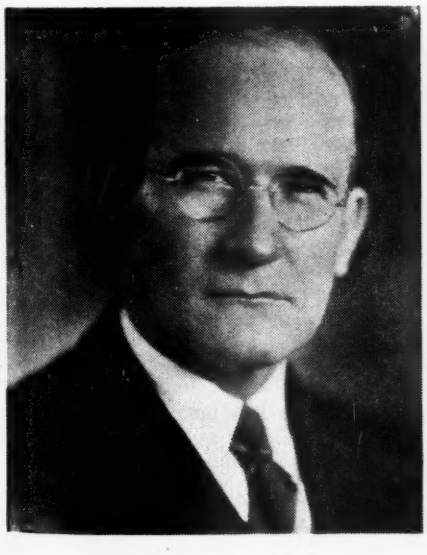
(1) of the transportation chaos in the first war, brought on because "roofs were ordered before foundations were in," and before arrangements were made for unloading;

(2) that there would be no transportation shortage this time because transportation service was being geared accurately to actual transportation needs;

(3) that he should get his unloading facilities ready before he ordered materials and, if he did not thus assist in preventing congestion in transportation, shipments to him would be embargoed.

Army contractors, practically without exception, extended the necessary co-operation. The Car Service Division has had daily reports (cars received and cars released) from each such project since the outset of defense preparations and, under such scrutiny, the average overall delay to cars arriving at such projects has been less than 48 hours. There has, consequently, been no transportation "shortage" to retard the completion of any of these facilities. It has rarely been necessary for the railroads to make good their threat to embargo a war facility because of its failure to observe the precepts requisite to the maintenance of an adequate supply of transportation—but, where necessary, and with the collaboration of the proper military authorities, such "embargoes" (without

## *Leaders in Organizing Railway Patrons' Collaborative Efforts*



**Charles Donley**

**Alvin W. Vogtle**

**George H. Shafer**

Regional Shippers Advisory Boards were organized in 1923 and have been functioning effectively ever since—but at no time with such spectacular and nationally-significant results as during the current war. Together with the transportation branches of the armed services, these boards provide the railroads with "grass roots" contacts for collaboration in transport efficiency with practically all users of their freight transportation service.

In 1937, to enable the regional boards the better to exchange, and profit from one another's, experience, the National Association of Shippers Advisory Boards was formed, with Charles Donley (traffic manager for a number of concerns at Pittsburgh, Pa.) as its first president. Alvin W. Vogtle, vice-president, traffic and sales, DeBardeleben Coal Corporation, Birmingham, Ala., served as president of this association, 1940-42, since which time George H. Shafer, general traffic manager, Weyerhauser Sales Company, St. Paul, Minn., has headed the organization.

being officially called by that name) have been forthcoming.

## "Pooling" Panacea No Longer Advocated

Until quite recently, a few persons who knew something about railroad transportation in general terms and from a distance—but hardly any with detailed knowledge of the industry's actual operations—carried on an intermittent evangelism for freight car "pooling," i. e., common ownership of all freight cars. Practical transportation men, with one or two exceptions, contended all along that—with present intelligent control and free interchangeability of cars—the practical advantages of "pooling" had already been secured, while avoiding the inevitable disadvantages of common ownership.

Of these disadvantages, the principal one is the discharge of individual railroads from responsibility for the supply and maintenance of an adequate supply of cars suitable to the *normal* requirements of their patrons. Under the present nation-wide control of freight car distribution through the Car Service Division, the individual railroad is not absolved from responsibility for providing cars for the normal needs of its regular patrons. The Car Service Division is ready to step in and aid the individual carrier to meet seasonal, abnormal and emergency requirements, but it has no paternalistic duty to supply the usual day-to-day car requirements of any carrier.

The present system of car supply is simply another instance of an effort to secure the advantages of centralization, while retaining the merits of individual, localized responsibility—to the limit of the ability of local carriers efficiently to meet their requirements. The theory is that the car supply will be handled better when there are several hundred individual car owners earnestly working to that end than if all authority and responsibility are gathered into one place.

There was, of course, a freight car "pool" under the federal Railroad Administration during the last war, and it was unable to maintain anything like as efficient or satisfactory a distribution of cars as that which is now in effect—undoubtedly because, at that time, the central authorities did not have the aid of the widespread localized responsibility and interest which now obtains. Car ownership by individual railroads is a principal means by which this localized responsibility and interest is secured. It is significant indeed that it has been at least two years since anyone in the slightest degree familiar with transportation has had anything to say about "car pooling."

It may be said, categorically, that, regardless of considerations of car ownership, all traffic offered to the railroads is "protected" with an adequate supply of cars —provided the railroads are advised in advance, and also provided (and it is seldom otherwise) that there are cars available anywhere in the country to meet the need. A few specific instances (of which there have been hundreds) will suffice to illustrate (these being taken from a memorandum prepared in the fall of 1943):

"Many cases requiring emergency treatment have arisen in connection with military movements. Such instances frequently require the assembling of as high as 1500 flat cars and drop-end gondolas. One such case involved 1580 flat cars out of the Southeast, cars being assembled from all railroads in the territory regardless of ownership or routing of the business. Military movement from a point in Wyoming in July required 350 cars which were provided by diversion of empties moving on the G. N. and N. P., including handling by the C. B. & Q. from Billings.

"A movement originating at Sault Ste. Marie, Mich., required 250 flats or drop-end gondolas which were destined to a point in New England. The cars were assembled by a quota order placed against five connections. Break-up of the Tennessee maneuvers last summer called for one of the largest orders of flat cars. In addition to securing empties from all Southeastern railroads, the N. Y. C. and P. R. R. were each directed to deliver 300 cars at Cincinnati. Some of these had to be collected from one end of the system to the other but were all delivered on schedule.

"An emergency order come in for loading 750 gondolas from ground storage at a point in New York State destined to an Atlantic port to meet a convoy. Less than a week was allowed for assembling the cars and getting them loaded. The P. R. R. was required to deliver 100 gondolas and the B. & M. and N. H. ordered to deliver an average of 40 cars daily for seven days, all cars being applied regardless of ownership. The balance of the cars were picked up by the loading road.

"Special movements of special importance are watched and empty cars diverted promptly into the service needed. Illustrating how some of these movements are made, the C. & E. I. in the past six months has moved a total of 2200 flat cars from St. Louis for delivery to the P. M. and G. T. W., with a very small return loaded movement to compensate. Cars releasing on the C. & O. and N. & W. around Newport News and Norfolk, on the C. N. J. and other roads in the New York Terminal district and on the New England roads have been moved westbound for these loading railroads via direct route and without regard to home route obligations because of prior loaded movements. Since July all flat cars releasing on the Southern Pacific moving eastbound through El Paso have been diverted to the C. R. I. & P. to a total of more than 3000 cars. Many of these have been delivered by the C. R. I. & P. in blocks of 100 or more to connections to meet military or commercial requirements. The C. G. W. recently moved 300 flat cars from the C. R. I. & P. and A. T. & S. F. at Kansas City to the C. & N. W. at Des Moines, without any participation in the business involved.

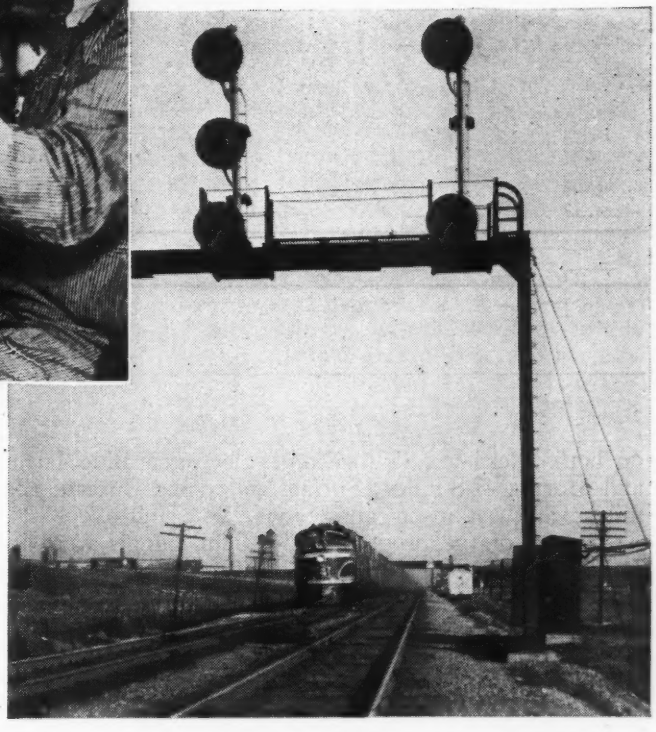
"The heavy volume of traffic terminating in California has resulted in an abnormal surplus of empty box and open top cars in that area. Under normal conditions a freight car that is made empty, with no return loading available, moves home via the road over which the loaded movement occurred. In order to expedite the return of these cars to home lines and to avoid cross-hauling and delay in finding their individual home route lines, an arrangement was set up by the Car Service Division for the movement home in direct route via the lines on which the cars were made empty. From March to September approximately 315,000 empties have been moved east via the Ogden, El Paso-Tucumcari, Belen and Albuquerque gateways. A large proportion of these cars were moving via other than the routes by which they went west loaded. At the Missouri river crossings the Union Pacific has delivered over 48,000 cars to their connections that have been accepted and moved east on a pro rata basis, without regard to the responsibility by reason of previous loaded movement."

## Centralization Without Autocracy

The foregoing evidences a situation in which industry and government collaboration has been established on a scale probably without parallel elsewhere. The procedure has succeeded so well, without doubt, because it has not been imposed—but adherence has been won by straightforward exposition and argument based upon simple facts. No centralized authoritarian direction could possibly succeed so well, because it could not hope either to have such complete information or a police organization adequate to the enforcement of its decrees. The complete nation-wide, highly-centralized, and "rationalized" control of transportation is prospering so notably because each of the many thousands of individuals who obey the control are also informed—and pardonably proud—participants in its exercise.

A democratic procedure is functioning with near-perfection under conditions vastly more difficult than those with which a more authoritarian regime dealt less successfully in World War I.

# Rock Island Installs Cab Signals and C. T. C.



*Above—In a Rocket Locomotive the Cab Signal Faces Two Ways. Right—A Westbound Train Passing the West End of Rockdale*

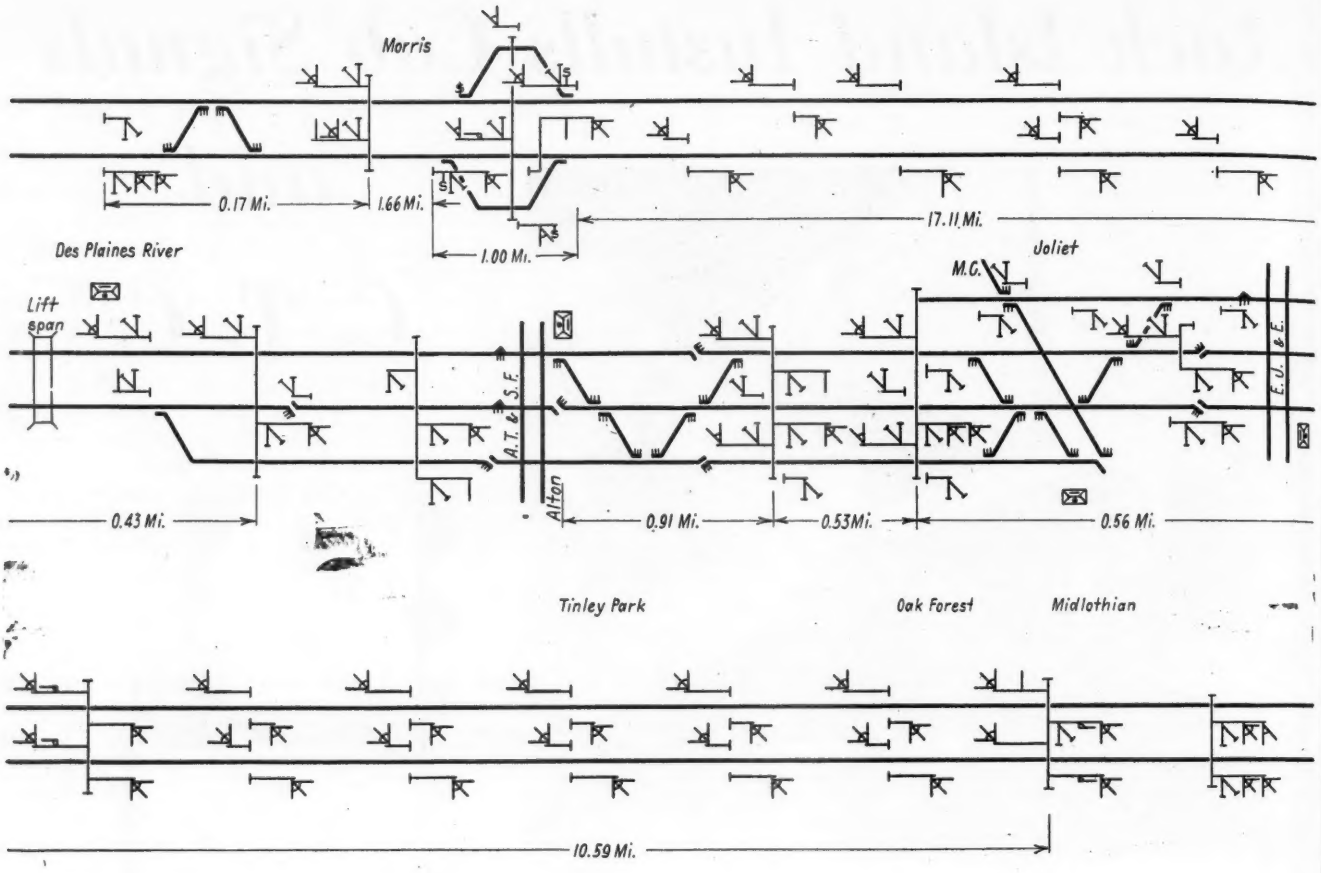
**Replaces old signaling and train control on 165 miles of double-track, and adds C.T.C. for either-direction operation on 85 miles**

THE Chicago, Rock Island & Pacific has completed a signaling replacement and expansion program on 165 miles of double-track main line between Blue Island, Ill., (Chicago), and Rock Island, Ill., which replaces obsolete systems of signaling with the most modern facilities as a means for increasing track capacity and reducing train delays.

In 1907, this territory was equipped with single-direction, right-hand running, automatic block signaling, using semaphore signals spaced for blocks about one mile in length. In 1923, the Regan Company intermittent ramp-type automatic train control was installed in connection with the wayside signals on this territory. In 1927, the westward main track between Blue Island and Joliet, 24.7 miles, was rearranged for two-direction running. That project included a new set of crossovers within an interlocking at Mokena. On this section of track, intermediate signals were respaced for 9,000-ft. blocks, and absolute-permissive block circuits were installed with traffic-direction locking under the joint control of the towerman at the three points mentioned above, so that train movements were authorized by signal indication in both directions on the westward main.

Several considerations prompted the recent changes in signaling. The old semaphore signals and train control equipment were worn to such an extent that major replacements would have been required at an early date. Furthermore, except on the westward track between Blue Island and Joliet, the spacing of the automatic signals was inadequate for present-day train speeds and tonnage. A study of the causes of serious train delays on various occasions led to the conclusion that there was a demand for more intensive utilization of the existing track facilities in this territory. One proposal was to provide signaling to authorize train movements in both directions on both tracks throughout certain sections where train delays were most frequent. With this arrangement, when the preponderance of traffic is in one direction, both tracks can be used by trains moving in the same direction, thus allowing the faster trains to run around slower ones, and thereby keep more trains moving at normal speed, rather than holding some trains on sidings.

Whereas previously, two-direction train operation by signal indication had been in service only on the normally westward track between Blue Island and Joliet, this system of two-direction train operation by signal indication under centralized traffic control is now in service




on both tracks for 85 road-miles; between Blue Island and Morris, 47.8 miles; Spring Valley and Bureau, 12.8 miles; and Atkinson and Silvis, 24.2 miles.

As part of the program, color-light signals were installed to replace semaphores, the automatic blocks being lengthened in accordance with the requirements for train-stopping distances. The intermittent ramp-type train control system was removed, and the new construction includes continuously-controlled four-aspect cab signaling.

Especially during stormy weather, the cab signals permit trains to continue at normal speeds when otherwise it might become necessary to reduce the speeds to permit enginemen to see wayside signals. Also where a train is just getting in the clear or another track or a siding, a less restrictive aspect is displayed at once in the locomotive of a following train, thus permitting this train to accelerate at that time, rather than waiting until the next wayside signal is passed.

A feature of the new signaling is the coded track circuits, by means of which the wayside signals and cab signals are controlled by different codes to display the various aspects, without the use of line control wires. For this reason, no additional crossarm was required on the pole line, thereby obviating the rebuilding of the pole line to provide vertical clearance.

As measured by the amount of signaling apparatus, wiring, etc., this is said to be the largest single signaling project installed on any railroad for several years. The necessity for keeping the old automatic signaling and train control in service until the new wayside signals and cab signaling were cut into service, caused much extra work.

## The Trunk of the Tree

If the general layout of the 7,700 road miles of the Rock Island System is compared to a tree, the 165 miles between Chicago and Rock Island comprise the trunk, with Chicago at the base. The main limbs of the tree extend from Bureau, Ill., to Peoria, Ill., and from Rock Island through Kansas City to El Paso, Tex., and to Dallas and Ft. Worth; through Des Moines, Iowa, and Omaha, Neb., to Colorado Springs, Colo., and Denver; through Cedar Rapids, Iowa, to St. Paul, Minn., and Minneapolis, Minn.; and through Iowa Falls, Iowa, to Sioux Falls, S. D.

The traffic of all these lines to and from Chicago must

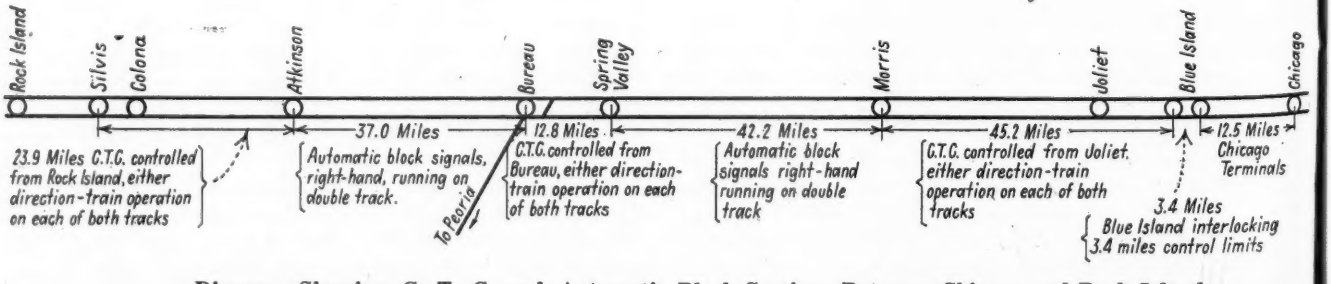
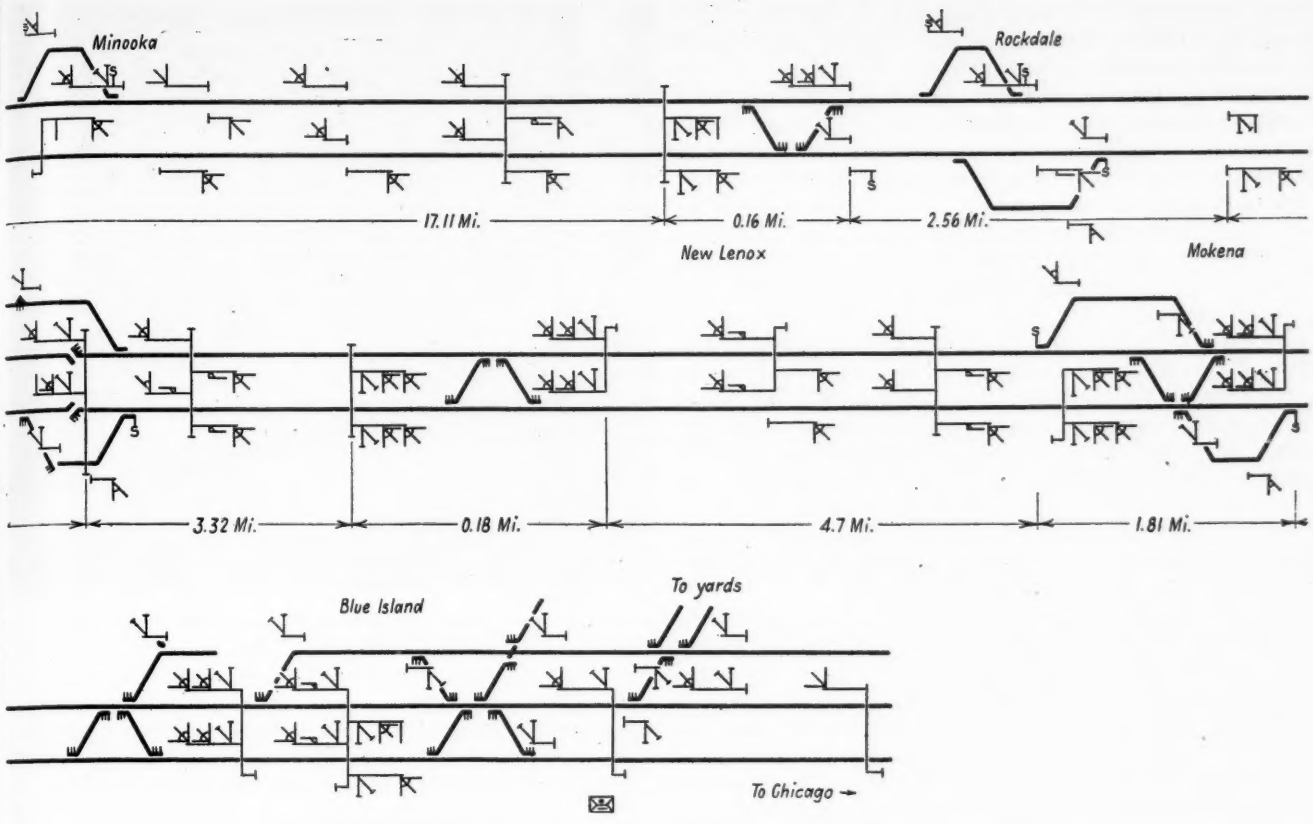



**Diagram Showing C. T. C. and Automatic Block Sections Between Chicago and Rock Island**




**Track and Signal Diagram of Centralized Traffic Control Territory Between Blue Island and Morris**

move over the Chicago-Blue Island-Bureau-Rock Island territory.

In the Chicago terminal area, the Rock Island has four or more main tracks between the La Salle Street station and Blue Island, 15.7 miles. Road freight trains arrive at and depart from the Burr Oak yard, just north of the station at Blue Island. The signaling program extends west from Blue Island to Rock Island.

Ten passenger trains, including the Rocky Mountain Rocket and the Des Moines Rocket, are operated each way daily between Chicago and Rock Island. Two Rockets each way daily between Chicago and Peoria, use the main line between Chicago and Bureau, 114 miles. Also 12 local suburban passenger trains are operated in each direction daily between Chicago and Joliet, 40 miles. These 24 suburban trains, together with the 4 Peoria Rockets and the 20 through trains, bring the total to 48 passenger trains between Chicago and Joliet.

The schedules include also an average of 10 through freight trains in each direction daily, and a local freight train each direction daily except Sunday, with extra "switching runs" in certain industrial areas, such as Joliet, La Salle, Ottawa, Seneca and Peru. An average of about 95 to 100 trains are handled daily between Blue Island and Joliet, about 50 trains between Joliet and Bureau, and about 45 between Bureau and Rock Island.

The difficulties of handling these trains is increased due to the fact that they are bunched. For example, many of the important eastbound through passenger and freight trains, as well as the suburban trains move into Chicago during the early morning hours. On some days as many as 11 trains are moved eastward between Joliet and Blue Island between 6 a. m. and 8 a. m.

Between Blue Island and Mokena, 14 miles, the grade ascends westward at rates varying between 0.3 per cent and 0.5 per cent. Likewise, between Joliet and Mokena, 10 miles, the grades ascend eastward at varying rates, with a maximum on each of two sections, each about ½ mile long, of 0.62 per cent, this section being the ruling grade eastward between Rock Island and Chicago. Between Joliet and Bureau the line follows the north bank of the Illinois river at river grade, while between Bureau and Rock Island the line crosses prairie country with several short rolling grades but no long heavy grades. In the vicinity of La Salle, there are three curves ranging from 2 deg. 28 min., to 3 deg. 30 min., and at Wyanet there is one 2-deg. curve. Otherwise the curvature on this line is very light. The track, which includes 130-lb. rail, is in good condition. As a whole, this is a high-speed line, with a maximum permissible train speed of 50 m. p. h. for freight trains, of 70 m. p. h. for passenger trains using steam locomotives, and of 90 m. p. h. for passenger trains with Diesel locomotives.

## Existing Interlockings Coordinated

The accompanying map indicates the three different sections on which C. T. C. was installed for two-direction train operation on both main tracks. For the first section between Blue Island and Morris, 45 miles, a control machine in the interlocking tower at MC in Joliet, controls the C. T. C. layouts at New Lenox and from Rockdale to Morris inclusive. Existing interlockings at Blue Island and Mokena are operated in coordination with the remainder of the system of authorizing train movements by signal indication, traffic locking being in effect between Blue Island and Mokena, and between Mokena and New Lenox.

The second C. T. C. section, between Spring Valley and Bureau, 12.7 miles, is controlled from a C. T. C. machine at Bureau. The third section between Atkinson and the east end switches of the freight yard at

Silvis, 24.4 miles, are controlled from a machine in the dispatcher's office at Rock Island, about 8 miles west of the end of the C. T. C. section.

On the 39 miles between Morris and Spring Valley and on the 33 miles between Bureau and Atkinson, trains are operated right-hand running under rules applying to double track with automatic block signal protection. The time-table applies, and train orders are issued to authorize variations from the timetable.

## Crossover Layouts

When planning to use both tracks for trains of the same direction, the first consideration is to provide crossovers between the main tracks at spacing such that trains can make run-around moves, the crossovers being designed to permit trains to make diverging moves at the highest speed practicable, thereby minimizing the train time lost; furthermore, sufficient signal aspects should be provided to permit trains to be brought up to and through these high-speed crossovers at the speeds for which these track facilities are designed.

On this basis, the project included three additional sets of two No. 20 crossovers, at New Lenox, at Rockdale, and at Morris. The C. T. C. section controlled from Bureau includes three sets of No. 20 crossovers, one at Spring Valley, one east of Bureau station and one west of the coal chute. The C. T. C. section on the west end includes a pair of No. 20 crossovers at Atkinson and a single crossover at the east end of Silvis yard. All of these crossovers, as well as the semi-automatic signals at these locations for authorizing train movements, are controlled by the C. T. C. system.

The two No. 15 crossovers at Mokena, 10 miles west of Blue Island, are operated by a mechanical interlocking, but as soon as practicable, these crossovers are to be replaced with No. 20's and the new crossovers and signals will be included in the C. T. C. system.

## Passing Tracks for Emergencies

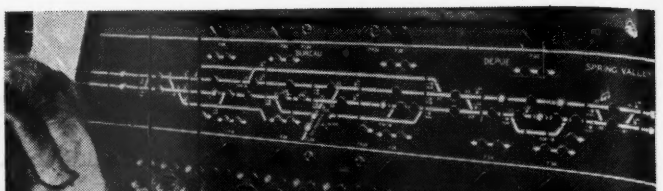
On the C. T. C. sections, the ideal operation is to use the crossovers to make run-around moves, thus keeping all trains moving, rather than holding some trains on sidings to permit others to pass. This ideal, however, is not always attainable and, therefore, some passing tracks must be available.

The Mokena layout includes two passing tracks, one for eastward and another for westward trains, the entering switches being operated by the interlocking and the departure switches being equipped with spring buffer mechanisms, including mechanical facing-point locks. Similarly the eastward siding at the E. J. & E. crossing near Joliet and the westward siding at Bureau have power-operated entering switches and spring switches at the departure end. Train movements into and out of these sidings are made without the trains stopping and in accordance with aspects displayed by semi-automatic controlled signals.

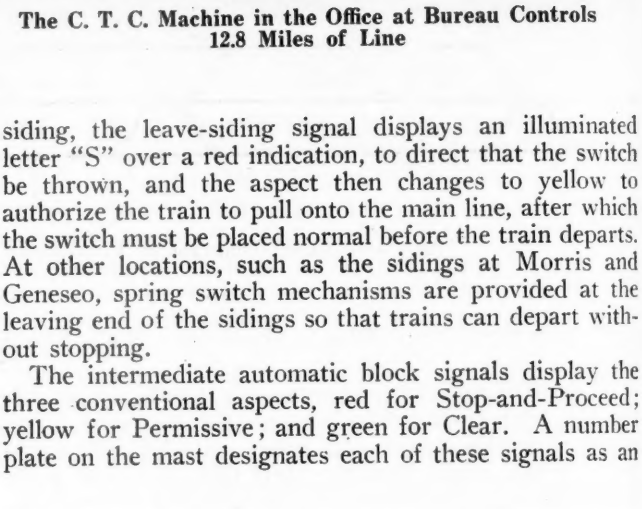
Other existing sidings at Rockdale, Minnoka, Morris and Geneseo are retained in service but are not used ordinarily.

When a train is to be directed to stop and enter such a passing track at a hand-throw switch, such as at the westward siding at Rockdale, the signal is controlled to display an aspect of red-over-red over an illuminated letter 'S", as shown in one of the illustrations. After the train has stopped and the switch is reversed, the aspect changes to red-over-yellow. When the train is to be directed to leave at the west end of this Rockdale siding, the leave-siding signal displays an illuminated letter "S" over a red indication, to direct that the switch be thrown, and the aspect then changes to yellow to authorize the train to pull onto the main line, after which the switch must be placed normal before the train departs. At other locations, such as the sidings at Morris and Geneseo, spring switch mechanisms are provided at the leaving end of the sidings so that trains can depart without stopping.

The intermediate automatic block signals display the three conventional aspects, red for Stop-and-Proceed; yellow for Permissive; and green for Clear. A number plate on the mast designates each of these signals as an



**The C. T. C. Machine in the Office at Bureau Controls 12.8 Miles of Line**



**Signal at Hand-Throw Switch at East End of Rockdale with "S" Lamp Light to Indicate Stop, Throw Switch, and Take Siding**

automatic signal and denotes that the most restrictive indication is Stop-and-Proceed.

The C. T. C. controlled semi-automatic signals governing train movements at the high-speed crossover layouts are each equipped with two or three searchlight signal heads in a vertical row. For a through move on straight track, the aspects are red-red-red for Stop, yellow-over-red-red for Permissive, and green-over-red-red for Clear. With a No. 20 crossover reversed for a diverging move from one main track to the other, the aspects are red-over-green-over-red for Clear-Restricting with two or more automatic blocks ahead unoccupied, and red-over-yellow-over-red for Approach-Restricting with only one automatic block unoccupied. With either the Clear-Restricting or Approach-Restricting aspect displayed by the home signal, the distant signal displays the Approach-Permissive aspect yellow-over-green. Thus an engineman can bring his train up to and through one of these crossovers at approximately 40 m. p. h., whereas if only the Approach aspect was available on the distant signal, he would be obliged to reduce to half the authorized speed at that signal and approach the home signal prepared to stop.

### Aspects of Cab Signals

Each cab signal has four circular lens openings 1½ in. in diameter in a vertical row. Only one of the four can be illuminated at any one time. The glass in the top opening is green. In the second opening, the upper half of the glass is yellow and the lower half green, so that when lighted, it displays the yellow-over-green Approach-Medium aspect. The third opening has a yellow glass. In the fourth opening, the upper half of the glass is red and the lower half yellow, so that when lighted it displays the red-over-yellow Restricted Speed aspect. Each time the aspect of a cab signal changes to a more restrictive aspect, i. e., from Clear to Approach-Medium; from Approach-Medium to Permissive; or from Permissive to Restricted, a whistle or whistles in the locomotive cab are sounded until the engineman operates an acknowledging lever.

The aspect displayed by the cab signal is the same as that of the wayside signal which the locomotive has just passed, and any change in the condition in the blocks ahead is reflected immediately by the cab signal. Thus, if a train ahead clears the main track, the cab signal displays less restrictive aspects, enabling the engineman to accelerate his train at once, rather than waiting until the next wayside signal is passed. By this means train delays are reduced or minimized.

### Cab Signals on Locomotives

As a necessary part of the project, cab signaling equipment was installed on all locomotives regularly assigned for operation over this territory, including 91 steam and 9 Diesel-electric locomotives.

Two receiver coils, each 24 in. long, were applied at the front end of each locomotive at a height of 6½ in. to 9½ in. above each rail. On the steam locomotives the center of the receiver is over the rail but, on account of structural features behind the pilots on the Diesels, the receivers were mounted so that the center of each receiver is about 3 in. off center on the gage side of the rail.

The amplifier equipment on each locomotive is in a specially constructed case located on the left side of the locomotive on top of the boiler. On some Diesel locomotives the equipment box is located inside while on others it was necessary to locate it in a protective box underneath the locomotive. The locomotive equipment on this project is a new development in that the amplifiers operate on 32 volts d-c., as compared with voltages of about 350 volts d-c. required on previous cab signaling. This change eliminated the necessity for motor-generators on the locomotives to secure the higher plate voltages.

The wayside portions of this project were planned and constructed by the signal department forces of the Rock Island under the direction of C. R. Swenson, signal engineer, who succeeded C. M. Duffy after the project was under way. The cab signal equipment on the locomotives was planned and installed by the mechanical department and forces under the direction of A. E. Ganzert, electrical engineer. The principal items of the signaling equipment, including the C. T. C. and cab signaling, were furnished by the Union Switch & Signal Company.

## New Books . . .

*Car Builders' Cyclopedia, 1943 Edition. Published by Simmons-Boardman Publishing Corporation, 30 Church Street, New York 7. 1,324 pages, illustrated. Price, $5.00.*

An advisory committee appointed by the Mechanical Division of the Association of American Railroads, many other railway officers, the railway car builders, and the manufacturers of railway supplies all assisted in the compilation of the 1943 edition of the Car Builders' Cyclopedia. In it have been included many of the new designs and construction details of freight and passenger cars and appliances developed in the field of railway car construction since the publication of the fifteenth edition in 1940. The Car Builders' Cyclopedia was first published in 1879 as the Car Builders' Dictionary. In 1922 it was transformed from an illustrated dictionary to a cyclopedia and the material has since been arranged and indexed so that reference to the general index, or to the table of contents, gives the location of each car or appliance, while the complete detailed index embodied in the definition section gives a reference to each specific car or part. Triennial revisions keep this book abreast of current practices in the construction of all types of railway rolling stock.

*The Steam Locomotive. Second Edition. By Ralph P. Johnson, M.E., chief engineer, The Baldwin Locomotive Works. Published by Simmons-Boardman Publishing Corporation, 30 Church Street, New York 7. 564 pages, illustrated. Cloth bound. Price, $5.00.*

The first edition of this book appeared in 1942 and was exhausted in about one year. Advantage was taken of the necessity for reprinting to revise the text, correcting such errors as had occurred in the first edition and adding three new chapters. The first of these, on steam utilization, is a general discussion of the factors affecting mean effective pressure and the efficiency with which the heat energy in the steam is converted into useful work. It points out the limitations as well as the possibilities for the employment of higher pressures and the attainment of lower back pressures. The importance of free passage for the steam from the boiler to the cylinders is developed. Another chapter deals with the distribution of locomotive weight and presents in detail the methods of calculating the location of center of gravity and the center of driver support for single-unit locomotives, with and without trucks, and for articulated locomotives as well. The methods are illustrated with examples. The third chapter which has been added deals with braking. The treatment is fundamental with respect to the forces involved in the production of retarding effect, and the discussion includes the problems of braking high-speed trains. In all, there are 29 chapters which may be divided roughly into three groups—those which deal with the locomotive and its performance; those which discuss conditions outside the locomotive affecting its performance, and those on various aspects of motive-power economics. In the field of locomotive proportions and performance the book contains much data and information which is directly related to modern practice. The treatment throughout is essentially practical.

# Railroads-in-War News

## Alaskan Railroading Depicted as "Tough"

### Fort Benning M. R. S. officer recalls his nine months on White Pass & Yukon

Captain H. A. Ziegler has had enough of the "Alaskan variety of railroading" where, as a lieutenant in the 770th Railway Operating Battalion he spent nine months from September, 1942, to May, 1943, running the 100-mile 3-ft.-gage White Pass & Yukon railroad from Skagway to White Horse.

Now commanding officer of Company C of the 722nd Railway Operating Battalion, at Fort Benning, Ga., Captain Ziegler looks back on his Alaskan stint as "the toughest job of railroading I ever want to do." Regarded as "ordinary," he said, were 50-ft. snow drifts, and severely high winds, or what the Alaskans call "wil-laws," frequently accompanied temperatures as low as 54-deg. below zero.

"Our job," recalled Captain Ziegler, "was to deliver gas, oil and other supplies and equipment to White Horse air base, to engineers working on the Alcan Highway and to troops of the Northwest Command, whose headquarters were at White Horse." Explaining that the run formerly had been a scenic route, with never more than one train a day, the captain said considerable skepticism was raised when "we told them our goal was 10 trains a day, and that we planned to run the year round." Thereafter, the Army sent in a number of big locomotives, especially built for narrow-gage, flat cars, snow plows and box cars. In order to unload them the battalion built a railroad out into the bay and then ran the new equipment onto the tracks when the tide went out, and left the barges high and dry.

"It's beautiful in Alaska in the summer and early autumn," he went on, "and it's nice railroading then, but when the snows begin to fall and the thermometer drops to below zero—well, it's still beautiful, but that's all I can say for it."

"Headaches" began with the snows, the captain noted. There were sharp curves and steep grades—in some places 3.8 per cent grades—and even 24-deg. curves. "That's as big a curve as any locomotive or freight car will negotiate," he declared. On one such curve, three flat cars loaded with pipe were lost. They rolled 400 feet down a mountain.

Remembering other features of winter railroading in Alaska, there were occasions, said Captain Ziegler, when every train and snow plow on the road was stalled by snow or ice quickly forming on the tracks. "At times like that, we just had to get out and chip the ice off the railroad tracks by hand."

But even when temperatures reached 54 deg. below zero, work went on, he stated. Fires had to be kept going in the boilers, as it was virtually impossible to start them once they'd gone out. Eight cars was the maximum that could be pulled up the mountains and each train had two locomotives—each snow plow, two additional engines. Communications were a problem—"heavy winds would snap our telephone and telegraph lines and then we could send only one train out on the line at a time, until the lines were repaired."

Trains carried extra rations, as it was unpredictable how long they would be gone. "Once the battalion commander and 26 others were on a train which was tied up for 13 days in a snow drift. Fortunately, they were close to one of the little houses used by the section gangs. They took refuge there, slept in relays and kept the fires going in the boilers of the engine, though after the fuel ran out they had to use the emergency ties along the railroad. Finally," the captain recalled, "a lieutenant went 30 miles through the snow to a little town to bring back food supplies by tractor and two dog teams."

With the coming of spring, mused the captain, "we hoped for better times—ha! The waters pouring down off the mountain either washed out the tracks or covered them with water. The cold winds promptly froze them—and then we had to send out men to chip off the ice so trains could run."

"Strangely enough," he concluded, a lot of fellows in his outfit want to go back to Alaska after the war. "Me? I'm going back to railroading in Colorado." (Captain Ziegler was formerly with the D.&R.G.W.)

### Embargo on O. D. T. Speakers

All public appearances or addresses at conventions or similar gatherings that involve the use of transportation facilities have been discontinued by Office of Defense Transportation representatives, Director J. Monroe Johnson announced last week.

This policy will remain in effect until passenger transportation conditions are improved, he indicated. It was disclosed in a telegram canceling an address which Col. Johnson was scheduled to make June 13 in Indianapolis, Ind., to the Ohio Valley Transportation Board, in which he pointed out that the invasion of the Continent is bringing about increased, rather than decreased, demands for transportation facilities, a situation which, he suggested, should lead officers of all organizations with meetings scheduled to consider cancellation.

## Will Approve Easier Multiple-Load Rule

### I. C. C. would permit Rule 33 modification, but not as carriers suggested

Proposed changes in Consolidated Freight Classification Rule 33, relating to multiple loading of carload freight, have been found by the Interstate Commerce Commission, Division 3, to be "unjust and unreasonable in part," but the finding is without prejudice to the filing of new tariffs embodying regulations less restrictive than those condemned. The report is in I. & S. Docket No. 5268.

The rule involved was originally published in compliance with the Office of Defense Transportation's General Order No. 18 which became effective November 1, 1942, to require maximum loading of carload freight. The modifications under suspension were published when O.D.T. Order 18-A, effective November 1, 1943, superseded Order 18.

**Cost of Restowing**—Under the latter there had been "some delay of cars due to disputes between shippers and the carriers as to who has the responsibility for restowing and rebracing at intermediate points of shipments remaining in the cars"; and claims for loss and damage in connection with multiple loads "have been substantial." Thus 18-A required the carriers to apply to the commission for authority to publish on 15-days' notice a rule governing the restowing and rebracing.

The suspended schedules published such a rule, placing the responsibility upon the consignors for safe loading at origins and restowing and rebracing at intermediate points; and while they also proposed continuance of the provision permitting three consignors to consolidate shipments in a single car, they reduced the number of origins at which such consolidations could take place from three to one. Protests came from the National Industrial Traffic League, various associations of shippers, industries and individuals.

**Several Origins Retained**—The effect of the commission's finding is to permit the publication of a "safe-loading" requirement which is in softer language than the carriers' proposal but which nevertheless places the responsibility on the consignor. In condemning the proposed reduction of multiple loading origins from three to one, the report advises the carriers to give consideration to a modification which would permit multiple loading by the same shipper in which connection the additional origin or origins "might be limited to those within reasonable distances of the initial origin."

The majority report represented the

view of Commissioners Mahaffie and Alldredge. Commissioner Splawn, concurring, agreed that the suspended schedules should be canceled, but he could not go along on the "safe loading" requirement which the majority suggests. He does not think that loss and damage claims under the present rule have been disproportionate to the "substantial benefits" which accrue to the railroads from multiple loading; and he is, therefore, not convinced that "any rule which has the effect of increasing the cost to the shipper should be approved unless the carriers have fully met the burden of establishing the lawfulness of such a charge."

## Army to Build New Pressure Tank Cars

Growing wartime demands for petroleum products, and particularly urgent need for more equipment to transport liquefied petroleum gases by rail, will be met by adding 1,000 cars to the nation's fleet of 3,282 pressure type tank cars now available, according to the Office of Defense Transportation. The total cost of the program will exceed $3,500,000.

"The War and Navy Departments desperately need every gallon of fighting grade aviation gasoline that can possibly be produced," O. D. T. Director Johnson said in announcing the program. "The Office of the Rubber Director and Rubber Reserve Company also desire increased quantities of butylene feed stocks for manufacture of synthetic rubber. In addition to supplying all transportation requirements for 100 octane aviation gasoline and synthetic rubber feed stocks, the demand for cars to move liquefied petroleum gases must also be met. Many war plants, ship yards, war housing projects, essential manufacturing plants, Army camps, home heating plants, etc., are dependent upon this material."

The program calls for construction by the War Department of 400 new high pressure type cars. The additional 600 cars will be provided by converting standard tank cars of 10,000 gallon capacity to low pressure type equipment. Cost of conversion of these cars will be borne by the Defense Supplies Corporation. The O. D. T. will control their distribution and use.

Due to the urgent need for this equipment, which has grown with invasion of Europe, deliveries are scheduled to start not later than October, 1944, and the entire program to be completed by December of this year, Col. Johnson said.

## Cuts $1,000,000 More from O.D.T. Fiscal '45 Funds

The Senate committee on appropriations on June 12 reported to the Senate the House-approved National War Agencies Appropriation Bill for the fiscal year ending June 30, 1945, recommending an Office of Defense Transportation appropriation of $17,000,000—$1,000,000 less than the amount approved by the House which in turn was $811,000 less than had been recommended by the Bureau of the Budget.

The bill also carries $500,000 for President Roosevelt's Committee on Fair Employment Practice, whose proceedings against Southern railroads and railroad labor organizations for alleged discriminations against negroes have been among its major activities. This same amount was also approved by the House, but the Senate committee stipulated that the salary of the F. E. P. C. chairman (Malcolm Ross) must be cut from $10,000 a year to $8,000.

## "Railroads Back Invasion," a Radio Program

The important role that the American railroads have played and are playing in the invasion of the Continent will be described over the Mutual Broadcasting System on Wednesday, June 21, from 11:15 to 11:30 p. m., Eastern War Time. The program will be entitled "Railroads Back Invasion."

Participating in the broadcast will be Major General Charles P. Gross, Chief of Transportation of the United States Army; Rear Admiral William Brent Young, Chief of the Bureau of Supplies and Accounts and the Paymaster General of the United States Navy; Col. J. Monroe Johnson, Director of the Office of Defense Transportation, and Albert R. Beatty, Manager of the Publicity Section of the Association of American Railroads.

The program will originate in the studios of Station WOL in Washington, D. C.

## Lake Shipments Break Records

Due principally to the more favorable weather conditions experienced this year, Great Lakes freight movements to date have been far ahead of 1943 results for the same period, according to record-breaking figures made public last week by the Office of Defense Transporation.

From the opening of navigation up to May 22 ore movements this year totaled 13,297,099 tons, as compared to 8,965,090 tons up to the same date in 1943; coal shipments up to May 22 were 11,209,499 tons, as compared with 8,412,894 tons last year; and grain loadings up to May 20 amounted to 72,686,777 bushels, while the corresponding 1943 total was 38,154,945 bushels.

## May Export Freight

There were 170,487 cars of export freight, excluding coal and grain, handled through United States ports in May, compared with 122,080 cars in May, 1943, or an increase of 40 per cent, according to the Association of American Railroads.

Export grain unloaded at the ports totaled 3,443, compared with 6,084 in May, 1943, or a decrease of 43 per cent. In addition, the railroads handled 410 carloads of coastal freight in May, compared with 524 in the same month in 1943, or a decrease of 22 per cent.

The total of 174,340 cars of export and coastal freight, excluding coal, handled through the ports in May represented an average daily unloading of 5,624 cars, the highest on record. This is the third consecutive month that average daily unloadings have exceeded 5,000 cars.

All ports were in a completely "liquid" condition during the entire month, the A.A.R. pointed out, and the "bank" of freight held at ports was lower than at any time since Pearl Harbor. There were only 2,254 cars, approximately 9 per cent of the total holdings, held in cars over 10 days at the ports at the close of the month. These included 13 cars which had been held over 30 days. This, it added, is a record that has not been equaled since the opening of hostilities in Europe.

## Trainmen's School to Open in Seattle

As a means of coping with the critical shortage of railroad workers throughout the state of Washington, a school for prospective brakemen, switchmen and locomotive firemen will be opened at Seattle, Wash., on June 19. The school is to be sponsored by the Seattle School Board, the State Board of Vocational Education and the War Manpower Commission.

According to present plans, the course of instruction will last two weeks, after which the successful candidates will be assigned jobs on either the Great Northern, the Northern Pacific, the Union Pacific or the Chicago, Milwaukee, St. Paul & Pacific, all of which are backing the new school.

## Milwaukee Will Put 15 Millions in War Bonds

The Chicago, Milwaukee, St. Paul & Pacific will invest $15,000,000 in war bonds during the fifth war loan drive. Of this amount the Cook County (Ill.) drive will receive $1,800,000, and each county in which the Milwaukee operates will receive some allocation. H. A. Scandrett, trustee of the Milwaukee, in asking authority to make the purchase, told the Federal Court at Chicago that in addition to assisting the United States in the prosecution of the war, and contributing to the success of the fifth war loan drive, the investment will also be advantageous to the railroad.

## Mexican Roads Help Move Farm Workers to U. S.

War Food Administrator Marvin Jones this week hailed the cooperation of the Mexican government in raising from 14,000 to 20,000 the June quota of agricultural workers it will furnish to the United States and in providing additional railroad equipment to transport the workers to the border "despite its own wartime transportation difficulties."

The W. F. A. announcement said that the National of Mexico has agreed to operate another train which will make seven round trips between Mexico City and the border during June. The road has been operating two such trains, while the Southern Pacific of Mexico is operating one.

## Johnson Warns Vacationers May Be Stranded

Warning that railroad and bus passenger space might be cancelled without notice as a result of increased military activity due to the invasion, Col. J. Monroe Johnson, director of the Office of Defense Transportation, has urged the public to refrain

from making summer vacation plans requiring either rail or intercity bus travel.

The military and war production demands on the railroads are now at an all-time high, and will increase during the summer, Colonel Johnson said. To the continuing burden of military freight must now be added the job of getting our casualties from incoming hospital ships and troop transports at numerous east and west coast ports to the general hospitals. From these general hospitals the wounded must be moved, at the proper time, to the special treatment hospitals located in scores of cities throughout the land. Additional transportation is required for trips to replacement centers and for furloughs. All lines on both coasts and in the interior will feel the impact of this additional travel load, he added.

As this condition will undoubtedly continue for some time, the statement emphasized that even should vacationers succeed in obtaining outgoing Pullman or coach accommodations there was no assurance that facilities will be available for their return on any certain date. It also was pointed out that because military needs must be met the purchase of a round-trip ticket or even return Pullman accommodations is no guarantee that such accommodations will be available on the specified date.

**Appeals to Mayors**—In furtherance of this warning, Col. Johnson appealed to Mayor LaGuardia of New York, president of the United States Conference of Mayors, for the cooperation of these city officials in an active campaign to eliminate all vacation travel requiring use of rail or intercity bus facilities.

"We must clear the traffic lines in order to service the invasion," the O.D.T. director wrote. "With the increasing military activity, we can't wait until hospital ships arrive in port to step up our home efforts. Even so, vacationers may be stranded away from home, and from work, if and when Pullman sleeping cars are taken for the wounded. Transport facilities for the armed forces must be in readiness when the demand comes; the necessity is here to go all-out on the home front to have them ready."

Supporting Col. Johnson's request, Mayor LaGuardia urged the 600 mayors belonging to the conference to join in the effort to solve the passenger transportation problem through voluntary cooperation in the same way that shippers and receivers of freight joined to achieve "phenomenal results" in handling the increase in that traffic.

## Southern's "Don't Travel" Plea

"Please don't ride on a Southern Railway train this summer unless your trip is absolutely essential" is the plea this road is now making of people within its territory. One of the first railroads to discourage needless train travel on its lines, the new appeal was issued by its president, Ernest E. Norris.

"By patriotically foregoing an unnecessary trip, you can help some grateful mother . . . perhaps the mother of your boy . . . to whisper, 'My son is home again,'" the president stated, observing that one of his railroad's most gratifying jobs is that of carrying servicemen back home for "a few precious hours of furlough."

"Our services and facilities will be strained to the limit . . . our regular trains and our stations are bound to be crowded as never before," Mr. Norris explained.

# Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since May 27, and which are of interest to railways:

**Aluminum Paint**—Distributors are now permitted to fill unrated orders or orders rated lower than AA-5, from inventories in their possession on March 15, 1944. In addition, paint manufacturers also may now deliver aluminum paint to their distributors during the period from May 15, to June 30, on unrated or low-rated orders. Amendment of Supplementary Order M-1-g effects these changes and also raises from seven to eighteen the permitted consumer uses of aluminum paint or pigment. Previously, only orders rated AA-5 or better might be filled, save in quantities limited to not more than two pounds of pigment and one gallon of paint per customer per month. The new amendment does away with this small order provision.

**Car Materials**—To permit railroad operators to place a portion of their orders for specified items of car materials in manufacturers' production schedules rather than attempt to issue orders to firms for future quarters on form WPB-2585, the WPB has issued Direction 3 to PR-P-142. This direction permits railroad operators to place advance orders for delivery during each of the three calendar quarters following the quarter in which the order is placed for up to 75 per cent of their first-quarter 1944 authorization of the following items: Air Brakes—AB (Code No. CA on Form WPB-2585), Hand Brakes—Power (Code No. CB), Brake Beams (Code No. CH), Couplers and Coupler Bodies (Code No. MA), Bolster Springs—Car (Code No. MC).

With the exception of power hand brakes (Code No. CB), a railroad operator may use the same preference ratings, and to the same extent, as were authorized for the particular item for the first quarter of 1944. For power hand brakes, he may use only a rating of AA-3 for advance quarters, regardless of the ratings authorized for that item in the first quarter of 1944. Direction 3 applies only to railroad operators under Order P-142 and not to transit or other operators. This direction does not relieve the rail operator from applying each quarter on Form WPB-2585 for firm authorization in accordance with the provisions of Order P-142.

**Industrial Construction Materials**—A list of construction materials which may not be used in industrial construction, carried on under the provisions of Direction No. 1 to Controlled Materials Plan Regulation No. 6, has been issued in Schedule A (Construction Limitations) to that regulation. At the same time that this list of materials was published, certain changes were made in Direction No. 1 to CMPR-6, to make the prohibitions on use of the specified materials and products effective.

Authority to deviate from the restrictions which are contained in the new schedule may be obtained by a person carrying on a construction project at the time he files his construction and facilities application such as Form WPB-617, or such other construction authorization forms as may be provided.

Authorization to carry on industrial construction is granted to applicants on Form GA-1456. In the event WPB grants permission to deviate from the list of restricted materials, contained in Schedule A, a specific notation of such exception will be made on the authorization form itself.

**Industrial Power Trucks**—General Limitation Order L-112a, governing industrial power truck models, approved for manufacture, has been amended to designate the approved model of truck which Yard-Man, Inc., Jackson, Mich., manufacturers of power trucks, may produce as D-Truck-Man, rather than C-Truck-Man, the WPB said today. This change is made because the company has changed the design of its product, and therefore had to obtain WPB approval to manufacture the new type. The designation D-Truck-Man indicates that the company may manufacture the new model as an approved industrial power truck.

**Metal Windows**—Metal windows may now be manufactured to fill orders with preference ratings of AA-5 or better, (AA-3 or better was formerly needed). The change, effective by an amendment to Order L-77, is made to bring the order in line with WPB policy which prohibits rating floors higher than AA-5. L-77, first issued in March, 1942, prohibits the manufacture of metal windows except for the military and to fill orders with preference ratings of AA-5 or better.

**MRO Supplies**—Rules governing the use of the maintenance, repair and operating supplies procedure for obtaining minor capital additions have been clarified by the issuance of an amended interpretation. Interpretation No. 11, as amended May 22, to CMP-5, points out that all labor costs involved in the manufacture of the material or equipment must be included in figuring the cost of an addition. On the other hand, the cost of labor used in construction or installation of a minor capital addition need not be included in figuring the cost.

**Southern Pine**—Effective June 12, all direct mill shipments of southern pine lumber must be accompanied by a tally card showing the point of origin of the shipment and a complete description of the lumber contained, including the species, condition, working and the number of pieces, size and length in accordance with Amendment No. 3 to second RMPR-19. The tally card must be posted within the freight car, and the requirement is designed to prevent such practices as upgrading and evasion of inspection accomplished by mills through holding up tallies and invoices until after shipments are unloaded and scattered.

Today's action also restores to the regulation the provision which prohibits "selling as specified lengths or widths a specific lot or shipment of lumber which is substantially equivalent to random lengths or widths, or reselling intact as specified lengths or widths a specific lot or shipment bought by the seller as standard or random lengths or widths, unless specifically permitted in this regulation. This prohibition shall not apply to shipments or deliveries which have been sorted out as to widths and lengths and then resold."

## Prices

**Bituminous Coal**—A premium of 15 cents a net ton for rail-shipped bituminous coal produced from handloading underground mines in Indiana was extended an additional two months to August 1, 1944, by Amendment 101 to MPR-120, effective June 1. A differential over other mines in Indiana (Coal District 11) was originally allowed these high cost producers November 29, 1943, to assure their continued production. The premium was to have expired by June 1, 1944, a date by which representatives of handloading underground mines stated they would present data from which OPA could decide whether the 15-cent higher level of prices was to be retained by them.

**Iron and Steel Products**—To relieve certain resellers of iron and steel products of the burden of keeping their excess stocks segregated, amendment 24 to RPS 49, effective June 1, exempted them under certain conditions from complying with a provision in its price schedule covering the resale of iron and steel products which requires special invoicing of excess stocks.

**Reinforcing Bars**—RMPR-159, effective June 6, provides revision of the price regulation for fabricated concrete reinforcing bars. One of the principal changes effected by the revised regulation is to extend coverage to sales by resellers, who are given the same ceilings as those already established for fabricators. Resellers include brokers or warehouses who purchase fabricated reinforcing bars for resale, particularly in connection with furnishing various other materials for construction jobs.

Only one important pricing change is made, a reduction of two cents per hundred pounds in the delivered price of reinforcing bars at Toledo, Detroit and Eastern Michigan, and at Gulf Port basing points to reflect the revocation of the 6 per cent increase in freight originally effective March 13, 1942.

# GENERAL NEWS

## How to Assure Low Rates After the War

### Vogtle urges shippers' aid to retain wartime economies in postwar period

Reviewing the accomplishments of shippers in collaboration with the railroads in increasing the capacity of existing plant, to enable it to cope with the load of war traffic, A. W. Vogtle, vice-president, traffic and sales, De Bardeleben Coal Corporation, Birmingham, Ala., has issued a plea that this carrier-customer cooperation be continued after the war as a means of promoting transportation economy.

**Reducing Transport's Cost**—"Expensive transportation has been a direct result of our past inefficient use of the transportation plant," says this leader among shippers. "The key to low-cost transportation is heavy loading. The railroads sell ton-miles, but they spend train-miles. The less they spend in relation to what they sell, the cheaper the unit cost and the lower the general freight rate level.

"We think it not at all too early to begin discussion of continued heavy loading of cars in the postwar period, thereby retaining for shippers and receivers this benefit of the lowest possible cost of transportation. If we want continued low-cost transportation, we ourselves must make it possible through continued efficient utilization of rail transportation capacity.

"The lesson is absolutely clear. Few of the major industries, except transportation and electric power, have maintained anywhere near their pre-war charges for goods and services. There has been no increase in the railroads' transportation charges despite the tremendous increases in their wage rates and the increased costs of materials and supplies required in their operations.

"How striking is the contrast with World War I! Then we had a breakdown of transportation during the war and for several years thereafter, as well as increases in freight rates of 25 per cent in 1918 and an additional 25 to 40 per cent, dependent on territory, in 1920."

**How Rolling Stock Was "Created"**—Mr. Vogtle recalls the desperate needs of this nation for adequate armament at the outset of the war, and the heavy burden that providing such armament placed upon the railroads—at the very time when the demands for weapons denied to the railroads the materials with which to expand their capacity. The only recourse in this situation lay in an effort to "create cars and locomotives by more efficient use" of the existing supply, and that is the course which the railroads, with the cooperation of their patrons, proceeded to follow.

The result has been that "by such work together in war-time, the capacity of the railroad plant has been notably increased, principally through the provision of speedier car-handling and heavier loading. Heavier loading not only increases the supply of cars, but also increases the freight-hauling capacity of locomotives. More freight in cars has raised the average loading of trains, resulting in fewer trains having to be operated and fewer locomotives being used to handle a given amount of traffic. And terminal operations have been facilitated through the handling of fewer cars and this smooth flow of traffic. Between 1939 and 1943 railroad freight traffic more than doubled, and passenger traffic nearly quadrupled; and yet the railroads managed to handle the business."

**To Avoid Postwar R.R. "Problem"**—Mr. Vogtle advocated a collaborative effort to retain these accomplishments after the war—not only because of the obvious advantage to shippers in promoting economies in transportation which will be reflected in rates, but also because such action "will contribute substantially to solving postwar difficulties with which the railroads likewise will no doubt be confronted." A solution of railroad difficulties is, to him, no less important a motive than the provision of economical transportation to the buyers thereof, because "our railroads in peace-time are the greatest developers of our country, but in war-time our very lives and freedom depend on the railroads."

Mr. Vogtle presented his proposal for postwar carrier-customer collaboration in an address to the Southwest Shippers Advisory Board at Fort Worth on June 1, and is having it reprinted under the title of "Son, the Old Man Held Up His End, Too." Those interested in his proposal may, probably, obtain copies of the complete presentation by addressing him at his office 2201 First avenue, Birmingham 3, Ala.

## Study of "Multiple Taxation" of Air Commerce Proposed

The House committee on interstate and foreign commerce has reported favorably H.R. 4935, the bill introduced by Representative Bulwinkle, Democrat of North Carolina, to provide for a Civil Aeronautics Board study of "multiple taxation of air commerce." The report states that the need for such a study has been emphasized by the recent Supreme Court decision holding that the *ad valorem* personal property tax levied by a state in which an airline corporation is "domiciled" may legally be applied to all that company's planes, except those "continuously without" that state. The decision (*Northwestern Airlines* vs. *Minnesota*) was reported in the *Railway Age* of May 27, page 1035.

## F.D.R. Is "Reluctant" To Let Leiserson Go

### N. M. B. chairman's departure is deemed result of wage case last winter

Confirmation by Dr. William M. Leiserson's office of his resignation as chairman of the National Mediation Board and National Railway Labor Panel, was followed on June 8 by a White House press release, making public the Leiserson letter of resignation and President Roosevelt's reply. As noted in the *Railway Age* of June 10, page 1127, Dr. Leiserson has accepted a visiting professorship at Johns Hopkins University and is understood to be preparing a book on labor relations. Dr. Leiserson's letter follows:

> I find it necessary to tender my resignation as chairman of the National Mediation Board and chairman of the National Railway Labor Panel.
>
> When you transferred me from the National Labor Relations Board to the National Mediation Board about a year ago, the Mediation Board was faced with a number of serious problems. These problems are now out of the way, and I feel that I must resume work on certain economic studies which had to be dropped when I entered government service.
>
> It has been a great pleasure and opportunity to be associated in the work of your Administration, which I am confident will be counted by historians one of the greatest in the annals of our country.

In accepting the resignation, President Roosevelt wrote:

> As I told you when we talked together, I regret exceedingly your decision to resign. . . . But since I understand, after talking with you, the long-range importance of the work you have undertaken to do for Johns Hopkins University, I reluctantly accept your decision to leave.
>
> As I expect to appoint your successor within a very short time, I hope that you will stay on the job until he can take over. I will, therefore, accept your resignation to become effective only when your successor duly qualifies for office.
>
> I need not tell you how much I appreciate the invaluable service you have rendered in the labor field to me and to the country during the most critical period of the war. My good wishes go with you in your new work. I am sure that you will let me call upon you from time to time as I need you.

While the foregoing indicates that there has been no rift between the N.M.B. chairman and the President, it is understood that Dr. Leiserson has been disappointed over the Administration's disposition to intervene and supplant N.M.B. in railway wage proceedings.

It has been reported that such disappointment over the President's intervention in the year-end crisis which brought on government operation may have been a factor in Dr. Leiserson's decision to resign. In that connection, it was recalled that President's action resulted in cancellation of December 20 Chicago conference which N.M.B. had arranged on the operating employees case. Of that action, this week's issue of "Labor" said that the Administration "butted in" when Dr. Leiserson had the case "practically settled."

# Begin Arguments on Rate "Equalization"

## Defense of southern class rate structure marks start of No. 28300 hearing

Arguments in the Interstate Commerce Commission's general class rate and classification investigations, Nos. 28300 and 28310, opened before the full commission at Washington, D. C., on June 14, with W. L. Grubbs, assistant general solicitor of the Louisville & Nashville, making the introductory statement on behalf of the railroads in southern territory. It was expected that the arguments would continue for about ten days, and the attendance at the opening session exceeded the capacity of the commission's large hearing room.

Mr. Grubbs, addressing himself to the issues in the class rate investigation, emphasized his view that the outcome of the proceedings would determine whether the railroads of the South would be given or denied the opportunity to render the kind of service the country has a right to expect of them, since, as he put it, their "very life" as solvent private institutions depends on the commission's decision.

**Five Major Issues**—Five phases of the controversy were discussed in this opening argument. First, said Mr. Grubbs, the interests advocating "uniform" class rates—that is, a nationwide level of rates determined by the lowest rates now prevailing in either of the general rate-making territories—have asserted that the existing alleged rate discriminations have operated to check the South's industrial development, to keep its economic relations with Official Territory states those of a colony to its mother country. The facts, he asserted do not support this contention, and he called attention to the difficulty its advocates had had in getting the support of southern shippers for their case. Only an insignificant and unsubstantial showing of shipper opposition to the existing southern class rate structure had developed in these proceedings, he insisted, a condition indicating that these rates are "singularly free" of complaints from those who use them.

This argument that the existing rate structure prevailing in the South ties that section's commerce to dependence on raw materials and keeps its people poor, Mr. Grubbs went on to say, lacks reality because it implies that the southern railroads want to keep that section poor. On the contrary, he said, they yield to no other interest in a desire to build up the South, and they were working to enlarge the region's industrial activity and diversify its agriculture many years before the Tennessee Valley Authority and the Southern Governors' Conference entered into the picture. What carrier, he asked, could prefer to haul sand rather than silk? The southern rate structure has evolved to the best advantage of that section, he insisted, and results in a situation where incoming manufactured goods move on rates profitable to the roads, while outbound rates permit southern manufacturers to compete in other markets while at the same time they enjoy low rates on inbound raw materials.

**South's Industry Growing**—The second issue discussed by the L. & N. solicitor was the contention that the southern rate structure perpetuates this so-called barrier to the industrial progress of the South. The statistical evidence, he declared, does not support this view, since it indicates, on the contrary, that the South has advanced industrially more rapidly than any other part of the country since the southern class rates have been effective.

Taking up the matter of railway operating costs in the South and their relation to costs in other territories, Mr. Grubbs discussed at some length the cost studies prepared by Dr. Ford K. Edwards of the commission's staff, in which a showing was made that, in 1939, based on certain stated assumptions, over-all operating costs in the South are from two to four per cent lower than in the East. Through a group of charts and tables the southern roads' spokesman undertook to refute the conclusions reached by Dr. Edwards, and to demonstrate that, if the conditions of the comparisons are restated in what he contended would be a fair manner, the reverse would be shown, that is, costs in the South would be found higher than in the East.

**Wouldn't Segregate Pocahontas**—Because operating conditions in the two sections are different, close comparisons cannot be established, Mr. Grubbs insisted. Moreover, he objected to the exclusion of the Pocahontas roads from the eastern group, of which they are, he argued, an integral part. He contended that, if these low-cost roads are excluded from the eastern group because they are low-cost, because their operating characteristics are different from those of other roads in the group since their traffic is predominantly in products of mines, then the South's low-cost roads, which similarly have different operating characteristics because they too have a large traffic in products of mines, likewise should be segregated from the region as a whole if a fair cost comparison is to be established. Taking other comparisons developed in the Edwards studies, those based on box car traffic and on gondola and hopper car traffic, he went on to develop results which, he said, showed that the results derived from these studies by their author were not dependable.

Even if it could be conclusively shown that southern operating costs are as low as eastern costs, it would not follow, the L. & N. counsel argued, that eastern class rates should be substituted for southern class rates. The volume of traffic is less in the South, he remarked, and the consist of traffic is less favorable than in the East. Where, in 1939, the products of mines and manufactures and miscellaneous groups—these being, according to the commission, he said, the groups most profitable to the railroads—accounted for 78 per cent of the total revenues of the eastern roads, they accounted for only 58 per cent of the revenues of the southern roads.

**Higher Costs, Lower Profits**—Since it is conceded that southern class rates are higher, on the average, than eastern class

(*Continued on page 1187*)

# Sees Railroads' Rise In Investors' Favor

## Stock Exchange member believes restoration of carriers' credit is coming

A return of confidence on the part of investors in railroad securities, and a consequent market price of such issues which would betoken a solvent industry, was predicted in a recent address to the American Statistical Association by W. Wendell Reuss, partner of the Stock Exchange firm of McLaughlin, Baird & Reuss, 1 Wall street, New York 5.

Able economists, he said, are appraising the post-war prospects for the railroads and, using gross national income (product) as a base, are forecasting annual gross operating revenues for Class I roads between $5½ and $7½ billion. They do not, however, estimate how long such revenues are likely to last.

**Related to Auto Production**—It is possible, in the opinion of Mr. Reuss, to forecast automobile production with some assurance, and experience has shown close correspondence between automotive production and railroad freight revenues. Eliminating the sharply abnormal years 1930-34 and 1938, all other years 1929-41 inclusive show just about $1,000 of railroad freight revenue for each passenger automobile produced.

The post-war production of passenger automobiles should run from 4½ to 6½ million units annually, in Mr. Reuss' opinion, which would indicate that the railroads ought to have freight revenues of $4½ to $6½ billion for four to six years after the war. If freight, express, and dining car revenues are left out of the calculation entirely—and passenger revenues estimated conservatively at only $500 million—it seems reasonable to assume that gross revenues should run from $5 to $7 billion annually. Taking the mean figure of $6 billion, we would have a total approximating that of the pre-depression years 1926-29, and higher than that of any year since 1929, except the war years 1942 and 1943.

The question is, said the speaker, what effect would higher costs (especially wages) and taxes have on turning such gross into a reasonable ratio of net? In 1916, average hourly wages per employee were 28.3 cents and, in 1943, 92.5 cents. The railroads used 1,647,097 employees to produce 362 billion ton-miles in 1916; and 1,355,129 employees to produce 727 billion ton-miles in 1943.

**Wage Outlays Well Controlled**—Subsequent to 1921, he pointed out, the ratio of wage payments to gross operating revenues has usually been kept below 48 per cent. It rose slightly above this in 1930-32, but dropped below it in 1933-37. It rose to 49 in 1938, but was down to 46.6 in 1939, was 45.7 in 1940, 43.7 in 1941, 39.3 in 1942, and 39 in 1943. These figures suggest considerable ability on the part of railroad

(*Continued on page 1188*)

# B. I. R. Members Not Yet Ready to Quit

## Say war and "insufficient" funds have delayed work; want further assignments

Although Senator Stewart remarked that the Board of Investigation and Research has been "almost assaulted" from "some sources" not in sympathy with certain of its activities, no opposition to a bill designed to extend the board's life four years was voiced at a hearing June 9 at which the Senator presided. Testimony in favor of the purpose of the bill was received from several members of Congress, the National Grange, and the two remaining members of the board.

**No Opponents, Few Advocates**—Introduced on behalf of Senator Stewart (Democrat of Tennessee) by Senator Maybank, Democrat of South Carolina, on April 12, this bill (S.1836) would so amend the Transportation Act of 1940 as to allow the board to continue its activities until September 18, 1948, or four years beyond the expiration date provided in that statute. Mr. Stewart was the only member present of the subcommittee of the Senate committee on interstate commerce to which the bill was assigned for hearing and report.

Senator Stewart indicated that several members of the House had expressed their interest in the bill, and statements supporting it were made by three Democratic Representatives, Sparkman of Alabama, Gossett of Texas, and Priest of Tennessee. Mr. Priest on May 9 introduced in the House a bill (H.R.4776) identical in language with S.1836. The remarks of these southern members of the House indicated that their desire to see the board's term continued was an outgrowth of its activities supporting the contention of certain interests in the South that that section has been adversely affected by so-called discriminatory freight rates, rather than of any evidence of its devotion to the duties assigned to it by the law which created it.

**Who the Board's Friends Are**—Representative Sparkman said the board's studies of freight rates had been helpful to members of Congress, and that its work was of "great interest and untold value" in meeting the need for some government agency to make a study of freight rates and differences between rates in different sections of the country. Congressman Gossett thought it would be a "most backward step" to discontinue what he called the "only really non-partisan agency of experts ever set up" to study the equity of transportation provided different parts of the country, and he suggested that a "sinister move" on the part of those not in favor of rate "equalization" was on foot to "terminate" the B. I. R. He went on to say that Congress would need such "experts" in dealing with controversial postwar transportation problems.

The burden of the testimony in support of the bill was carried, however, by Chairman Robert E. Webb and C. E. Childe, the two members of the B. I. R. Mr. Webb declared that, although the board had been able to complete "much of the work" assigned to it by law, and already had released seven reports or studies and had others nearing completion, its work had been hampered, first, by the loss of one year of the four originally contemplated for its task through delay in the appointment of its members, and, further, by disturbed conditions arising from the war, by uncertainties as to the time and money it would have available, and by "insufficient" funds.

**His Experting Needed, Webb Thinks**—While the board expects to submit to Congress reports on its studies of public aids to transportation and its cost studies, among others, before it goes out of existence, these properly should first be made available for criticism by interested persons before being formally drafted, he indicated, and with the staff and funds and time now available he did not expect that would be possible. Moreover, he went on to say, large war and postwar transportation problems need investigation, and the government should assume leadership in such studies. In addition to developing further the cost studies which the board had undertaken, Mr. Webb thought it should look into such questions as transportation integration, postwar adjustments in the field of transportation, job evaluation of transportation labor, and an analysis of the flow of national commerce.

Mr. Childe informed the committee that the board expects to make various legislative recommendations before September 18, when its present term expires, pointing out that it already had proposed that three permanent new government transportation agencies be established (this was reported in *Railway Age* of May 27, page 1029). Legislation dealing with so-called traffic "barriers" and corrections of the "inequities" of the present railroad rate structure were indicated, as well as revisions in present government regulation of the different forms of transportation, which, he said, was not fair to all. Through governmental restraint of "uneconomic" competition between the different types of carriers "substantial" cost savings could be realized, Mr. Childe suggested, particularly if governmental planning and supervision should be extended to bring about fuller co-ordination of their facilities.

**Childe Proffers His Services**—Under

(*Continued on page 1188*)

### S. S. Joseph B. Eastman

The United States Maritime Commission announced June 10 that a Liberty-type merchant ship now under construction at the Bethlehem-Fairfield shipyard at Baltimore, Md., would be named the Joseph B. Eastman, commemorating the late director of the Office of Defense Transportation and member of the Interstate Commerce Commission.

# Senate Recess to Delay Land Grant Repealer

## Boren bill won't be brought up until Congress returns after August 1

Senate consideration of the House-approved Boren bill for repeal of remaining provisions of the land-grant-rate law will be delayed until after August 1 when Congress will have reconvened following its recess, for the period of the national political conventions, which is expected to begin June 23. In adjourning "subject to the call of the chair" the hearings before the Senate interstate commerce subcommittee which he heads, Senator McFarland, Democrat of Arizona, indicated on June 14 that he had abandoned hope of having the bill considered by the full committee and reported to the Senate before the recess.

**Little Opposition Seen**—Generally the hearings before the Senate subcommittee have thus far been a condensed version of those before the House subcommittee which were reported in the *Railway Age*, issues of March 25, page 605, and April 1, page 644. However, more opposition from government departments has come into the open. At the House hearings, only the War Department made a public presentation against the bill; although adverse reports from Secretary of the Interior and the Treasury Department were included in the printed record of the hearings.

At the Senate hearings presentations have been made by the War, Interior and Agricultural Departments. The first still bases its opposition on financial grounds, citing the prospective increase in Army transportation costs, while the other two suggest that any repealer should include a provision requiring railroads to return to the government any granted lands still held and not required for carrier operations. A somewhat similar position was taken by Benjamin C. Marsh, executive secretary of the People's Lobby, Inc., while the only government rate clerk to appear in opposition "as a citizen" was H. W. McGinnis who is employed in the Transportation Division, Finance Office, War Department.

**But It's Still Almost Unanimous**—Meanwhile, repeal drew the same unanimity of support which it had received before the House committee from the Interstate Commerce Commission, railroads, shippers, motor carriers, forwarders, railroad labor organizations, and the Chamber of Commerce of the United States. Even the Mississippi Valley Association was on hand, its president, Locklin McLean, pointing out that the Association has been on record in favor of repeal since 1938.

Railroad presentations were made by R. V. Fletcher, vice-president of the Association of American Railroads; W. M. Jeffers, president of the Union Pacific; Wilson McCarthy, trustee of the Denver & Rio Grande Western; Clarence A. Miller, vice-president and general counsel of the American Short Line Railroad Association; and Dr. Julius H. Parmelee, direc-

tor of the Bureau of Railway Economics. All of these except Messrs. McCarthy and Parmelee had appeared before the House committee.

The former pointed out that the D. & R. G. W., not a land-grant road, now finds that war traffic amounts to 70 per cent of its total business. In 1943 it made land-grant deductions under equalization agreements amounting to $3,740,000, which Mr. McCarthy called "a lot of money for our railroad." He told the committee that the railroads are "thoroughly awake" to the prospective post-war competitive situation, but warned they must have "dollars and cents" to put themselves in a position to meet it.

**1944 Net Below 1929**—Dr. Parmelee testified as to the general trend of traffic and earnings, telling the story of the month by month decline in net earnings which began in June, 1943, and which he believes will continue through the current year, bringing it below the pre-war peak of 1929. He expects the 1944 net income after charges to be $400,000,000 less than the comparable 1929 figure, despite the fact that the current year's gross will be three billion dollars above 1929's.

Dr. Parmelee believes that 1944 will see the wartime peak of traffic and gross revenues. He anticipates a decline in 1945 and probably for two years thereafter, in the period of demobilization. He called the committee's attention to the recent statement wherein the Interstate Commerce Commission's Bureau of Transport Economics and Statistics calculated that the effect of applying the current expense set-up to the 1940 traffic volume would be to produce a deficit of $446,500,000 as compared with the actual 1940 net income of $188,800,000. [This calculation of the I.C.C. Bureau was noted in the *Railway Age* of May 13, page 909.] In closing Dr. Parmelee hazarded a guess that about 70 per cent of railroad ton-miles and 50 per cent of the passenger-miles are at present directly or indirectly related to the war effort.

**Interest in Post-War Plans**—Chairman McFarland was especially interested in railroad plans for the postwar period, and Judge Fletcher agreed to make a later presentation outlining the work of the Railroad Committee for the Study of Transportation which he heads. Meanwhile President Jeffers of the U. P. stated that the railroads must spend "millions of dollars" on new equipment and deferred maintenance; the U. P. would now be spending "much more" than it is on maintenance if it could get the materials and the manpower. Also, Mr. Jeffers thinks there is going to be a "tremendous improvement" in passenger equipment and schedules, although he thinks that is needed "more in the East than in the West."

The committee was also interested in the railroad attitude toward the amendments made by the House committee and adopted by the House before it passed the bill. One provides that the effective date of repeal shall be 90 days after the bill's enactment date, and the other calls the I.C.C.'s attention to the increased revenues which the carriers will receive as a result of repeal, so that such increased revenues will be reflected in "appropriate readjustments" in rates. Mr. Jeffers thought the 90-day delay would be "reasonable" in that it would give time for adjustment to the new basis. With respect to the I.C.C. attention-caller, he thought it would put the commission in a position to get the over-all picture, since "certain reductions may be found desirable." Mr. Jeffers did not, however, view the amendment as requiring specific action on the part of the commission.

Likewise did Vice-President Miller of the Short Line Association think the 90-day delay might be desirable "from the standpoint of mechanics." His comment on the "directive" to the I.C.C. was that he did not know that as a matter of law or fact it would add anything to present law; but he saw no objection to calling repeal specifically to the commission's attention.

**Confusion and Uncertainty**—As they had before the House committee, all of the railroad representatives emphasized the uncertain financial outlook which arises from the fact that the carriers may be called upon in lean future years to refund to the government amounts now in disagreement because of the confusion as to the applicability of the land-grant rates. As Judge Fletcher put it, the confusion as to what constitutes military and naval traffic is a phase of the matter which "can't be overemphasized"; the government is "piling up claims against the railroads which amount to $175,000,000 up to now."

Appearing for the Interestate Commerce Commission, Commissioner Mahaffie made a presentation along the lines of his statement to the House committee. Among other things, he emphasized the I.C.C.'s interest in the effect of land-grant rates on commercial shippers, pointing out that the net charges to the government cannot be found in tariffs open to inspection, despite the "well recognized" principle that all common-carrier rates should be thus published. The commissioner also explained how land-grant rates have become the concern of motor carriers and forwarders who must enter equalization agreements if they would participate in government traffic. Chairman McFarland suggested that the railroads might like to make motor carriers subject to land-grant rates because of their use of the public highways; but the commissioner replied that he would be "greatly surprised" if the railroads "should be unkind enough to suggest that anybody be subject to this."

**Shippers and Labor**—Most of the shipper representatives had previously supported the bill before the House committee. They included H. A. Hollopeter, traffic director, Indiana State Chamber of Commerce, whose statement was read by Senator Jackson, Democrat of Indiana; John B. Keeler and F. F. Estes, president and chairman of the legislative committee, respectively, National Industrial Traffic League; C. J. Goodyear, national secretary, National Association of Shippers' Advisory Boards; A. H. Schwietert, traffic director, Chicago Association of Commerce; K. C. Batchelder, traffic manager, West Coast Lumbermen's Association; A. G. T. Moore, traffic manager, Southern Pine Association; and Wilson Compton of the National Lumber Manufacturers Association. The Chamber of Commerce of the United States was represented by A. B. Barber, manager, Transportation and Communication Department.

Presentations on behalf of railroad labor organizations were made by John T. Corbett, assistant grand chief engineer, Brotherhood of Locomotive Engineers; D. B. Robertson, president, Brotherhood of Locomotive Firemen and Enginemen; and J. G. Luhrsen, executive secretary-treasurer, Railway Labor Executives' Association. Also, there was inserted in the record a statement, favoring repeal, from George M. Harrison, president of the Brotherhood of Railway Clerks. The positions of the trucking and forwarding industries in favor of the bill was stated again by Roland Rice, general counsel, American Trucking Associations, Inc., and Giles Morrow, executive secretary and commerce counsel, Freight Forwarders Institute.

**Federal Agency Opposition**—A new War Department witness expressed that agency's opposition to repeal. Whereas Colonel E. C. R. Lasher, deputy chief of the Army Transportation Corps' Traffic Control Division, had appeared before the House committee, the Senate committee heard Lieutenant Colonel William B. Bennett of the Office of the Assistant Chief of Staff. He pointed up a report which had been submitted by the Department, recommending that the bill be not enacted "at least for the duration of the war." As Colonel Bennett put it, the effect of repeal on the War Department would be financial —it estimates that it is now saving about $200,000,000 a year as a result of land-grant rates.

The opposition of the Department of the Interior was expressed by Assistant Secretary Oscar L. Chapman, although he did suggest that there would be no objection to "renegotiating" the land-grant contracts if the government could receive "an appropriate *quid pro quo*," i.e., a return of the granted lands still held by the railroads. Mr. Chapman argued that the land could be put to good use by the government for the settlement of returning soldiers on reclamation projects. Also he pointed out that the railroad lands are intermingled with public lands, and contended that the whole area would be better administered in the public interest if the government had full control.

**Asks 180-Day Delay**—Lee F. Kneipp, assistant chief, Forest Service, Department of Agriculture, argued along the same lines with respect to railroad lands within the forest reserves. He also highlighted a report which had been submitted to the committee by the Secretary of Agriculture. That report suggested that if Congress saw fit to enact the repealer it should attach a condition requiring the return of lands still held; or it should delay repeal for an additional 90 days (a total of 180 days) and add a proviso to the effect that the Comptroller General should calculate the savings as a result of land-grant rates during such 180-day period, and that the Congress should authorize the amount of such savings to be appropriated for the acquisition from the railroads of lands within the boundaries of federal reservations.

Meanwhile the report stated that the

Bureau of the Budget had advised that enactment of the bill, even though it be revised in the foregoing manner, "would not, at least at the present time, be in accord with the program of the President."

Chairman McFarland expressed some interest in the return-the-lands demand, saying that the large amount of western land already held by the federal government "bothers" the people of Arizona, who feel that they have too much land in public ownership and thus removed from local taxation. Previously, Judge Fletcher had referred to arguments along that line which had been made during the House debate on the bill.

## W. P. B. Revamps Transportation and Stockpiling Set-up

The functions and organization of the War Production Board's Division of Stockpiling and Transportation have been transferred to a newly-established Bureau of Stockpiling and Transportation within the W.P.B. set-up, Charles E. Wilson, W.P.B. executive vice-chairman, announced June 8. The new bureau consists of the Office of the Director, a division of Stockpiling and Shipping, and a Division of Transportation and Storage, all in charge of Edward Browning, Jr., who was acting director of the former division.

The new division of Transportation and Storage will be directed by F. J. Sette, formerly assistant division director, while Edwin E. Frost, former chief of the Stockpiling Branch, will be in charge of the Stockpiling and Shipping Division.

## Keith Co. Sues A. A. R. Over Mileage Reduction Rate

The Keith Railway Equipment Company, Chicago, last week filed suit against the Association of American Railroads, 18 corporations and five of their officers, charging the defendants with violation of the Sherman anti-trust act, and seeking to collect $300,000 damages. The suit was filed in the United States District Court.

According to the complaint, the Keith organization charges that it was damaged to the extent of $100,000 by an "aribtrary" reduction in the mileage rate allowed by the carriers for the use of cars rented from the plaintiff from 1½ cents to 1¼ cents per mile, the reduction becoming effective September 1, 1943. The plaintiff also alleges that the Keith Company was forced to sign the 1½ cent rate agreement in 1940 "under the duress of threats to boycott," and that an agreement relating to car repairs was executed "under duress."

## Labor Board Approves Raise for Employees of Forwarders

Acting to maintain the relationship with non-operating railroad employees, who received their retroactive adjustment in January, the National War Labor Board on June 13 approved a wage increase of 7½ cents per hour for 5,400 platform and office workers employed by seven freight forwarders. The increase is retroactive to October 1, 1943, as agreed by the companies and the Brotherhood of Railway Clerks.

The seven forwarders involved are: Universal Carloading & Distributing Corporation; National Carloading Corporation; Acme Fast Freight, Inc.; Pacific & Atlantic Shippers Association; International Forwarding Company; Lifschultz Fast Freight; and Springmier Shipping Company.

## Club Meeting

The Electrical Section, Engineering Division, Association of American Railroads, will hold its annual meeting at the Hotel Sherman, Chicago, October 11.

The Traffic Club of St. Joseph, Mo., will hold its Spring Golf Tournament in that city, June 20.

The Northwest Car Men's Association will next meet September 6 at 8 p. m., in the Midway Club, 1931 University avenue, St. Paul, Minn. "Safety First" is the subject to be discussed by George Demsey, editor, Safety News, Steam Railway Section, National Safety Council, Chicago. (There will be no meetings during June, July and August.)

The 24th annual summer outing of the Transportation Club of the Rochester Chamber of Commerce is scheduled for June 20, at Newport, Irondequoit Bay, with a sports program at 5 p. m., and dinner at 7 p. m.

## May Employment 5.48 Per Cent Above May, 1943

Railroad employment increased another 0.84 per cent—from 1,413,349 to 1,425,192—during the one-month period from mid-April to mid-May, and the May total was 5.48 per cent above the comparable 1943 figure, according to the latest summary of preliminary reports prepared by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. The index number, based on the 1935-1939 average and adjusted for seasonal variation, was 140.2 for May, up fractionally from April's 140.7 and 7.3 per cent above May, 1943's 132.9.

* * *

**Poster No. 251, Now Being Distributed by the Committee on Education, Safety Section, A. A. R., as the July Installment in the "All the Year-Every Year Safety Program"**

May employment was above April's in all groups save train and engine service (down 0.4 per cent), and the group embracing transportation employees, other than train, engine and yard (down 0.21 per cent). The largest increase over the previous month was the 3.91 per cent rise in yardmasters, switch-tenders, and hostlers. Next came maintenance of way and structures, up 3.5 per cent, while the other three increases were less than one per cent. Meanwhile all groups were above May, 1943, the range being from 0.65 per cent for train and engine service employees to 10.55 per cent for the maintenance of way and structure group.

## Pension Act Amendment

Another bill to liberalize the benefit provisions of the Railroad Retirement Act has been introduced in the Senate by Senator Davis, Republican of Pennsylvania. It is S.1991.

## Representation of Employees

The Brotherhood of Railroad Trainmen has lost to the Order of Railway Conductors by a vote of 66 to 23 an election to determine the representative for the purposes of the Railway Labor Act of the road conductors of the Virginian, according to a National Mediation Board certification continuing the O. R. C.'s authority. The clerical, office, station and storehouse employees and red caps of the Union Passenger Depot Co. of Galveston, Tex., have chosen as their representative the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees.

## Judge Hay Made Top Executive of War Manpower

The War Manpower Commission has announced that Lawrence A. Appley will be succeeded as executive director and deputy chairman of the commission on July 1 by Judge Charles M. Hay of St. Louis, Mo. Judge Hay, who recently has been general counsel of the W. M. C., formerly was counsel for the Railway Labor Executives Association, and in that connection was active in wage negotiations, particularly as chief counsel for the operating brotherhoods in the so-called Morse board proceedings in 1941.

## No Sudden Reconversion Problem Expected at Baldwin

The Baldwin Locomotive Works, because of the nature of its products, will not face a sudden change from war-time to peace-time activities in the postwar era, according to Ralph Kelly, president. Mr. Kelly said that while Baldwin was manufacturing military tanks and other ordnance until recently, this actually represented only a part of the company's output. Since the urgent military need for more locomotives took Baldwin out of ordnance production early this year, the company has been able to concentrate all of its energies on increased production of locomotives and other regular products.

Mr. Kelly said the company has been engaged for many months in a program of expansion involving extensive rearrange-

ment and retooling of shops to increase efficiency and speed up production. These enlarged facilities have already resulted in an increase of over 42 per cent in locomotive production for the first four months of 1944, as compared with the corresponding 1943 period. The production of Diesel engines for railroad, marine and stationary service, measured in terms of rated horsepower, has increased 27 per cent in the 1944 period and a new and completely re-equipped Diesel engine shop now beginning full production will permit progressively higher schedules during the remainder of the year.

## Pacific Electric Arbiter Named

Following an overwhelming strike vote—1,894 for and 53 against—by the trainmen of the Pacific Electric at Los Angeles, Cal., the National Mediation Board last week appointed J. J. Noonan, of San Francisco, Cal., mediator to arbitrate the wage differences. Mr. Noonan immediately began a series of hearings on the trainmen's demands that the Pacific Electric be required to pay passenger trainmen the wage increase which was granted trainmen of Class I steam railroads last December.

## Locomotive Smoke Discussed at Detroit Meeting

The Smoke Prevention Association, in session at Detroit, Mich., during the first full week of June, devoted June 8 to a round table discussion of railroad locomotive smoke abatement and fuel problems, the meeting being presided over by E. D. Benton, fuel engineer of the Louisville & Nashville. J. E. Bjorkholm, superintendent of motive power, Chicago, Milwaukee, St. Paul & Pacific, opened the morning session with a paper on Management's Viewpoint on Railroad Smoke in which he credited the Association with much of the progress made in eliminating unnecessary smoke from steam locomotives and power plants and stressed the importance of utilizing adequate smoke prevention equipment, operating methods and particularly giving proper attention to the human element. Following Mr. Bjorkholm, H. J. Riddle, general road foreman of engines, Pennsylvania, Terre Haute, Ind., discussed Overfire Air Jets and Their Relation to Smoke Abatement. This subject was also discussed by Sumner B. Ely, superintendent of the Pittsburgh Bureau of Smoke Prevention, and other speakers.

The afternoon session was opened with a paper on Reducing Terminal Smoke by L. G. Plant, Direct Steaming Corporation, Washington, D. C. Mr. Plant included in his report the results of a study over a 40-month period of smoke conditions at four engine terminals in Chicago, including two enginehouses with typical open smoke jacks, one with air ducts for collecting and disposing of smoke and one with direct-steaming equipment for filling locomotives and developing practically full boiler pressure, with steam supplied from stationary boilers, before fuel is ignited in the locomotive firebox. While the results of this test were somewhat spotty, the number of minutes of dense smoke per report was a minimum at the enginehouse equipped with the direct-steaming system.

Following Mr. Plant, P. T. Tolin, enginehouse foreman, Pennsylvania, Jersey City, N. J., described his methods of abating smoke at a busy engine terminal. W. C. Shove, general road foreman of engines, New York, New Haven & Hartford, New Haven, Conn., also discussed this subject and emphasized the vital part which supervision must play in accomplishing desired results.

## Intercity Buses in 1943

Class I intercity bus operators reported a 1943 net income after income taxes of $41,443,253, compared with $31,898,384 in 1942, according to Statement No. Q-750 for the year, which has been issued by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. The compilation is based on reports from 179 carriers.

Their 1943 gross revenues were $386,048,502, up 34.7 per cent from 1942, while their operating expenses were $241,360,143, up 27.9 per cent. They operated last year over 212,813 miles of route as compared with 209,366 miles in 1942. Passengers carried in intercity service totaled 515,111,791, compared with 350,178,328; while the number carried in charter or special-party service rose from 5,048,615 to 5,614,562.

## Freight Car Loading

Loadings of revenue freight for the week ended June 10 totaled 874,193 cars, the Association of American Railroads announced on June 15. This was an increase of 63,421 cars or 7.8 per cent above the preceding week (which included the Memorial Day holiday), an increase of 19,707 cars or 2.3 per cent above the corresponding week last year, and an increase of 41,558 cars or 5.0 per cent above the comparable 1942 week.

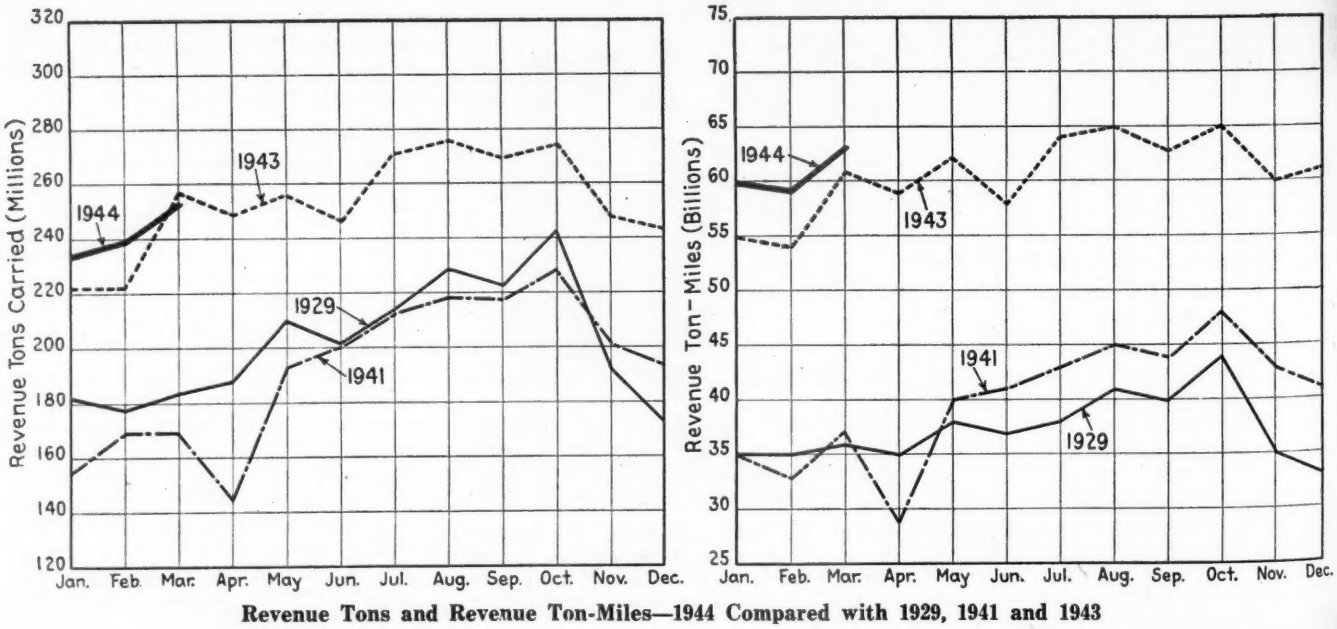
Loading of revenue freight for the week ended June 3 totaled 810,772 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

**Revenue Freight Car Loading**

For the Week Ended Saturday, June 3

| District | 1944 | 1943 | 1942 |
|---|---|---|---|
| Eastern | 147,428 | 125,752 | 158,468 |
| Allegheny | 186,654 | 140,624 | 185,678 |
| Pocahontas | 54,951 | 20,141 | 57,170 |
| Southern | 119,336 | 101,840 | 124,422 |
| Northwestern | 121,284 | 115,227 | 141,616 |
| Central Western | 112,576 | 101,604 | 115,626 |
| Southwestern | 68,543 | 62,421 | 71,709 |
| Total Western Districts | 302,403 | 279,252 | 328,951 |
| Total All Roads | 810,772 | 667,609 | 854,689 |
| Commodities | | | |
| Grain and grain products | 37,107 | 38,377 | 35,871 |
| Live stock | 12,655 | 12,104 | 12,484 |
| Coal | 169,965 | 41,277 | 163,765 |
| Coke | 14,671 | 11,420 | 13,854 |
| Forest products | 39,382 | 41,431 | 53,319 |
| Ore | 79,563 | 74,655 | 92,453 |
| Merchandise l.c.l. | 97,080 | 90,959 | 97,587 |
| Miscellaneous | 360,349 | 357,386 | 385,356 |
| June 3 | 810,772 | 667,609 | 854,689 |
| May 27 | 869,860 | 853,783 | 795,621 |
| May 20 | 871,105 | 843,842 | 837,676 |
| May 13 | 868,309 | 849,032 | 839,054 |
| May 6 | 836,978 | 816,538 | 839,286 |
| Cumulative Total, 23 Weeks | 18,416,773 | 17,616,766 | 18,532,435 |

*In Canada.*—Carloadings for the week ended June 3 totaled 70,579, as compared




**Revenue Tons and Revenue Ton-Miles—1944 Compared with 1929, 1941 and 1943**



*News Department continued on next left-hand page*

# The Steam Locomotive Provides..

# Both SPEED and CAPACITY

**FOR all classes of service, the steam locomotive provides any desired speed, without sacrificing the characteristics of economy, flexibility or safety of operation.**

**LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO**

with 67,952 cars for the previous week (affected by the non-statutory holiday, May 24), and 66,917 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

| Totals for Canada | Total Cars Cars Loaded | Total Cars Rec'd from Connections |
|---|---|---|
| June 3, 1944 ..... | 70,579 | 37,210 |
| May 27, 1944 .... | 67,952 | 38,454 |
| May 20, 1944 .... | 71,214 | 39,045 |
| June 5, 1943 ..... | 66,917 | 38,167 |
| Cumulative Totals for Canada | | |
| June 3, 1944 ..... | 1,511,192 | 871,857 |
| June 5, 1943 ..... | 1,380,274 | 859,976 |
| June 6, 1942 ..... | 1,391,114 | 708,962 |

## Sees Growing Shortage of Bus and Truck Tires

In the face of an increasingly critical shortage of heavy-duty truck and bus tires, "it is imperative that truck and bus operators practice the most rigorous conservation measures," said Director Johnson of the Office of Defense Transportation in connection with a statement released last week which indicated a net deficit of about 25,000 such tires a month in the third quarter of this year.

While it is estimated that monthly replacement requirements for large size tires will average 165,000 during the third quarter, the total production allotment available will not exceed 140,000 tires, the O.D.T. explained. Although the total allocation of heavy tires to the O.D.T., as claimant agency for domestic transportation, was 18 per cent over its second quarter allotment, requirements for original equipment on new vehicles increased 65 per cent in the same period, according to the statement, leaving a net increase of about 10 per cent in the supply of large tires available for replacement with which to meet an anticipated 25 per cent normal seasonal increase in demand.

The alternative to rigorous conservation, Col. Johnson pointed out, is "a severe curtailment of essential motor transport services. Excessive speed and overloading must be eliminated," he said; "tire maintenance practices must be kept at the highest possible level; and recaps must be substituted for new tire replacements in every case where possible."

## Begin Arguments on Rate "Equalization"

(*Continued from page 1182*)

rates, and their interterritorial rate divisions are larger, it follows that southern roads, if their costs were lower than the eastern roads' costs, should consistently show a higher rate of return than the eastern roads, Mr. Grubbs asserted, but they do not. While the general revenue level of the southern roads is from 3 to 5 per cent higher than that of the eastern roads according to the Edwards studies, and about 6½ per cent higher according to the southern roads' estimates—these figures reflecting commodity rates and divisions as well as class rates—the conclusion is warranted, he contended, that higher operating costs prevail in the South. In view of the necessity of maintaining the South's most important industry—its railroads—in a solvent condition, it seemed to him that the evidence indicated that a thoroughly sound rate structure prevails in that region, a rate structure that reflects a close approach to an ideal distribution of the transportation *benefit*—a term he preferred to use instead of transportation *burden*—in the South. Extending this argument, he asked where—if southern class rates were reduced—the southern roads could obtain revenues to make up the resulting losses, pointing out that commodity rates could not be expected to absorb such losses.

**"Parity" No Panacea**—The fourth principal issue in the proceedings, Mr. Grubbs said, is whether nationwide freight rates on a mile-for-mile parity basis would be a panacea for practically all of the South's alleged ills. The great weight of "expert" opinion, he pointed out, is that such parity would be a deterrent to the South's industrial progress. Interests urging "parity" are largely motivated, he suggested, by a grievance against certain northbound rates, which they contend are unfavorable to southern manufacturers, amounting to a so-called "rate wall" around the South. When challenged to show how southern industry has suffered from such rates, these interests have been able to find "only a bare handful" of southern manufacturers with such a grievance, he contended, and so have been forced to take the position that "unborn" southern industries are the sufferers. On this ground, he went on to say, supporters of parity—that is, lower southern class rates—are asking the commission to take a step that would threaten the solvency of the South's basic industry, the southern railroads, for the "imagined" benefit of "imaginary" industries. At least on this one issue, namely, that the commission should take no action that would deny the railroads of the South a reasonable return for their services, there would seem to be absolute unity among the parties to the proceedings, he concluded.

## Fir Plywood Association Forms Research Foundation

Under the designation of the Plywood Research Foundation, an experimental institute was founded by the Douglas Fir Plywood Association at the annual meeting of that organization, at Tacoma, Wash. The new foundation, which will be financed by the plywood industry, will have as its primary objective exploratory studies of the development of wood products to be manufactured from material sources now regarded as secondary, such as smaller trees, and the utilization of logging and mill waste.

## Col. Willard F. Rockwell Offers Post-War Unemployment Plan

A plan for withholding a percentage of present war production profits for the post-war benefit of returning veterans and unemployed war workers was outlined on June 9 in New York by Col. Willard F. Rockwell, chairman of the board of the Timken-Detroit Axle Company, the Standard Steel Spring Company, and other companies. Col. Rockwell has petitioned President Roosevelt and Congress for permission to institute this post-war plan in his own companies.

The plan provides that war producers shall be permitted to withhold from profits after taxes and dividend or interest requirements, but before renegotiation, sums ranging up to one week's average wages or salary for each month an employee has worked in a war plant, with a maximum withholding of 24 weeks' wages for each employee who has worked a minimum of two years. A similar provision is included for all members of the armed services who left gainful employment in factories now engaged in war work. These funds are to be disbursed if and when contract terminations and reconversions result in substantial unemployment, and until such time as the participating plants can re-employ their workers or the dismissed employees shall have found other work.

The entire plan would be under the supervision of the Social Security Board with all unpaid balances remaining in these reserves two years after final settlement of terminated war contracts to be returned to the government in the form of windfall taxes. Companies operating under the plan, it is envisioned, would have the use of unexpended reserves for reconversion purposes until the balances were due the Treasury.

Col. Rockwell also suggested that the government establish a board of business men to survey the complicated surplus property and production facility inventories now in the hands or under control of government procurement agencies, for the purpose of recommending immediate steps to reduce these surpluses so as not to dislocate the national economy when the war ends.

## Flash Floods Near Omaha Disrupt Traffic

Two successive cloudbursts of nine inches and seven inches in the Platte and Elkhorn river watersheds in eastern Nebraska on June 12 and 13 caused numerous washouts in this area and disrupted main line traffic west of Omaha, Neb., on the Union Pacific, the Chicago, Burlington & Quincy; and the Chicago, Rock Island & Pacific. Main lines to the east of Omaha were unaffected and traffic was restored over the main lines west of that point in periods varying from 24 to 48 hours.

## I. C. C. Service Orders

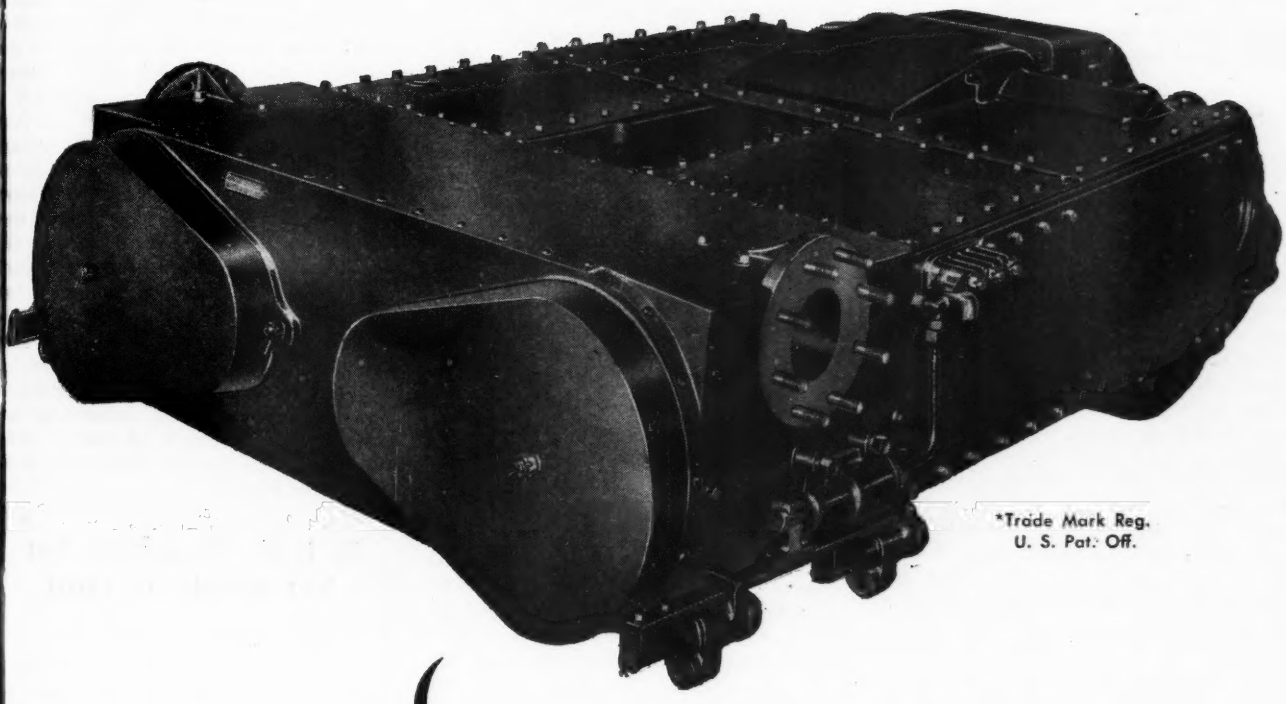
Because of a shortage of ice and mechanical power at certain points, the Interstate Commerce Commission has limited the amount of ice that may be used to re-top ice refrigerator cars loaded with cabbage at points in Alabama, Mississippi, or Tennessee. Through Service Order No. 211, effective from June 8 to July 8, not over 10,000 tons of ice may be used for re-top icing of such cars not bunker iced, or not over 5,000 tons of re-top ice when cars are bunker-iced.

Revised Service Order No. 210, effective June 13, superseded Service Order No. 210. The effect of the new order is to extend to additional states the provisions of the original order restricting the icing of refrigerator cars loaded with fruits or vegetables originating in specified southern states. As revised, the restrictions apply to citrus and other fruits originating in Florida, and to vegeta-



*News Department continued on next left-hand page*

# *new* TYPE "E" BOOSTER*



*Trade Mark Reg. U. S. Pat. Off.

*combines* { **MAXIMUM POWER WITH SMOOTH OPERATION**

In the development of the new Type "E" Booster, the trend in locomotive design toward higher boiler pressures, as well as many new factors in steam locomotive operation, have been kept in view.

A special starting feature and the application of proper gear ratios for given boiler pressures, wheel diameters and adhesive weight, provide maximum starting effort. The short cut-off takes full advantage of the expansive properties of the steam and effects marked economies in steam consumption. Then such features as dynamic balancing and the roller bearing crank shaft, securely housed in the engine bed, greatly increase the smoothness of operation.

In every element the Booster is designed to give the most effective service, with a minimum of maintenance.

**FRANKLIN RAILWAY SUPPLY COMPANY, INC.**
NEW YORK • CHICAGO
*In Canada:* FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

originating in Florida, Alabama, Mississippi, Georgia, Kentucky, Louisiana (east of the Mississippi river), South Carolina, North Carolina, and Tennessee.

The provisions of Service Order No. 207, having to do with holding of fresh or green fruits, vegetables or melons in the South for reconsignment or diversion, have been further suspended, except as to watermelons and potatoes, to July 11, through an extension of General Permit No. 1 under that order. Service Order No. 158, applying to the unloading of certain shipments of cotton at Alexandria, La., has been set aside by Service Order No. 158-A, effective June 14.

## Sees Railroads' Rise In Investors' Favor

(*Continued from page 1182*)

managers to control their wage outlays, keeping them in reasonable ratio to gross, whatever hourly rates may be.

Physical improvements in the way of better track, easier grades and curvature, mechanization of roadway maintenance, centralized traffic control, more efficient motive power—all these have contributed to economy in the use of high-priced labor, and indications are that the postwar years will see an extension of such improvements.

Railroad management in 1943, the speaker pointed out, demonstrated its ability to handle twice the passenger volume of 1916 with 28 per cent fewer cars; twice the freight traffic with 25 per cent fewer cars; and the whole transport job with 37 per cent fewer locomotives. With due allowance for increased size of units, this record indicates that "the situation is well in hand."

Taxes are high, but there are some features of this situation which are not always fully appreciated—and of these Mr. Reuss mentioned several. Credits for abandonment and retirement of property and equipment are helpful. The opportunity through 1945 to purchase and retire obligations at a discount, without taxation of the paper "profit" thus earned, is of great significance. The "carry-back" provisions of the Revenue Act of 1943 would prove most helpful if net earnings in 1945 or 1946 should decline below the 1943-1944 level, entitling the carrier to substantial refunds.

**Reduced Fixed Charges**—Moreover—with a prospect for 4 to 6 years of gross revenues of at least the 1941 volume, with labor costs under control in ratio to gross, and tax conditions being no worse than at present—there are still to be considered the reduction of fixed charges which has occurred, and the increase in cash resources.

Since 1941, debt retirement (net) has been an estimated $1.1 billion, the current total of funded debt being estimated at $10.1 billion, vs. $11.2 billion at the close of 1941; fixed charges are down from $620 million to about $547 million (on an annual basis) now. Giving effect to only the known I. C. C. or compromise reorganization plans—and to no further debt retirement—fixed debt should be reduced to about $8 billion, and the annual fixed charges would then be approximately $422 million.

Earnings available for fixed charges in the leanest years since 1929 were $528 million in 1938 and $550 million in 1932. On the basis of present fixed charges—plus the future effects of known I. C. C. or compromise reorganization plans—a return even to the low net earnings level of the 'Thirties would still show charges comfortably earned (on an "overall" basis, that is). Despite a reduction of $1.1 billion in funded debt from 1941 to 1943, the speaker noted an increase from $816 million to $1,551 million in net current assets in the same period.

**Refunding Operations**—He noted also what he believes to be a "refunding trend for railroad securities." The Pennsylvania Company, he said, "showed the way by refunding $46 million of 4's into a combination of $20 million of 3⅛'s and $15 million of serials, carrying an average coupon of 1.96 per cent; the annual saving in interest of approximately $919,000 (net of tax effects) goes a long way towards meeting the $1,500,000 annual serials." He mentioned in this connection also the recent Burlington and Southern Pacific refinancing, and expressed the conviction that similar activity by other roads (five of which he named specifically) was "not too much to expect."

The Burlington, he explained, had refinanced $56,773,000 of 1949 maturities, carrying 4 per cent and 3½ per cent coupons, with a combination of $30,000,000 of 3½'s and $10,000,000 of five-year serials carrying a 1½ per cent rate—"resulting in the substitution of $1,200,000 annual interest for $2,105,000." "This $905,000 annual interest saving net of tax effects," he said, would go "a long way toward meeting the $2,000,000 of annual maturities for five years."

He concluded with the opinion that he could "confidently foresee an eventual return of investor confidence in railroad securities, to the extent where once more they will command the same high respect and compensatingly low yield as that experienced in yesteryear."

## New Air Services Connecting Boston with South and West

Four additional air services connecting Boston, Mass., and New England with points to the south and west have been authorized by the Civil Aeronautics Board in a decision dated June 12.

The decision authorizes Northeast Airlines, Inc., to operate between Boston and the intermediate points of Worcester, Mass., Waterbury, Conn., New Bedford-Fall River, Mass., and the co-terminal points of New York and Newark, N. J. United Air Lines, Inc., is authorized to operate between Cleveland, Ohio, and the intermediate point of Hartford, Conn., and Boston. Transcontinental & Western Air, Inc., is authorized to operate from Pittsburgh, Pa., to Boston, through Williamsport, Pa., Binghamton, N. Y., Albany, and New York. Eastern Air Lines is authorized to designate Boston as a terminal point on its routes originating in San Antonio, Tex., and Miami, Fla., with the condition that Boston shall be served only in flights originating or terminating at points south of Richmond, Va., or west of Charleston, W. Va.

Applications of Seaboard Airways, Inc., and Colonial Airlines, Inc., to operate between Boston and New York were denied, as were applications of United and Transcontinental to extend their lines from New York to Boston.

In deciding the Northeast Airlines phase of the proceeding the board dealt with the question raised as to whether that company should be granted the certificate sought in view of the board's previous finding that Northeast was controlled by the Boston & Maine, Maine Central, and Central Vermont. The present decision finds that those railroads no longer control Northeast. Since the previous finding, it points out, the Central Vermont has sold its holdings and the other two roads have reduced their holdings to a point where together they now own only 10 per cent on Northeast stock. And the railroads no longer have any representatives on Northeast's board of directors where they formerly had three. Penroad Corporation has acquired five per cent of Northeast's stock since the prior decision, but the board found that such holdings had no effect on control of the air line, whose largest stockholder is the Atlas Corporation.

## B. I. R. Members Not Yet Ready to Quit

(*Continued from page 1183*)

questioning by Senator Stewart, Mr. Childe went at some length into the nature and cost of the board's railroad waybill study, going on to assert that it would require several years to complete an accurate and comprehensive analysis of the data that is made available. While the board will be able to present some findings and conclusions in this investigation by September 18, it has just made "a good start" on the job, he said, and a further opportunity for work was suggested in the "need" for similar comprehensive studies in each other field of transportation. While certain other government agencies have expressed a desire to obtain the waybill data accumulated by the board, Mr. Childe argued that pending action by Congress on the proposal that three additional permanent transportation agencies be set up, the life of the B. I. R. should be extended to permit it to carry on its investigations in this field and in the development of information for the use of Congress in shaping a postwar transportation policy.

## 1943 Commodity Statistics by Geographical Areas

The Interstate Commerce Commission Bureau of Transport Economics and Statistics has made public its statement No. Q-550 for the year 1943, showing for Class I roads the tons of revenue freight originated and terminated in carloads by classes of commodities and by geographical areas. The commodity-group figures total 1,46[illegible] 314,059 tons originated and 1,368,903,9[illegible]



*News Department continued on next left-hand page*

# For Greatly Increased Locomotive Availability!

# SECURITY CIRCULATORS!

1. Positive flow of water over CENTER of crown sheet
2. Reduced honeycombing
3. Reduced flue plugging
4. Reduced cinder cutting
5. Better arch brick support
4366 SECURITY CIRCULATORS IN USE, ON ORDER

## AMERICAN ARCH COMPANY, Inc.

NEW YORK CHICAGO

SECURITY CIRCULATOR DIVISION

tons terminated, while the 1943 forwarder traffic is shown to have amounted to 3,727,243 tons originated and 3,960,453 tons terminated.

The "geographical areas" classification is by states, except that the six New England states are grouped together. Pennsylvania continues to be the big originator and terminator, with 241,512,394 tons and 187,301,561 tons, respectively. The breakdown by commodity groups also shows Pennsylvania in the lead with respect to two classes—products of mines, and manufactures and miscellaneous.

Of the former it originated 177,344,845 tons and terminated 122,860,017 tons, while its respective figures for manufactures and miscellaneous were 59,640,681 tons and 49,788,225 tons.

Minnesota with 13,924,348 tons was the leading originator of products of agriculture, while Illinois was the leading terminator with 14,677,218 tons.

Illinois was also the big originator of animals and products (3,163,333 tons), but New York's 2,904,597 tons was the largest volume terminated. In the products of forest groups, Oregon was the big originator and Washington the big terminator, the respective figures being 11,414,123 tons and 8,874,290 tons. New York originated the largest volume of forwarder traffic (954,442 tons) while Illinois led the terminators with 728,289 tons.

### New N. M. B. Mediator

H. Albert Smith of Humphrey, Mo., has been appointed to the National Mediation Board's staff of mediators. The N. M. B. announcement of June 13 said that Mr. Smith has been in government service for a number of years, "engaged in extensive investigation and research, including personnel work in connection with federal employees, and is familiar with the workings of various federal laws dealing with labor relations."

### Stays Intrastate Fare Increase

At the request of the circuit court judge, Commissioner Porter, acting for the Interstate Commerce Commission, has postponed until August 1 the effective date of the commission's order in its No. 29036 proceeding, which would require railroads operating in North Carolina to increase intrastate passenger fares to the level of the interstate fares approved by the commission in its Ex Parte 148 findings, despite the objection of the state authority.

### Hobbs Bill Reported

The House committee on judiciary has reported favorably H.R. 4960, the latest version of the bill sponsored by Representative Hobbs, Democrat of Alabama, to restrict the authority of the Interstate Commerce Commission in reducing the capitalization of railroads undergoing reorganization.

---

ON 32 BRANCH LINES of the British railways which were served before the war by 180 freight trains, there are now well over 500 trains running. "They not only afford relief to the trunk lines, but also serve industries which have sprung up in these outlying parts," Modern Transport, London, reports.

# Equipment and Supplies

## LOCOMOTIVES

The NEW YORK CENTRAL last week placed in experimental operation two Diesel-electric freight locomotives of 5,400-h.p. built by the Electro-Motive division of the General Motors Corporation as part of its program of experimentation with various types of motive power on a competitive basis in actual operation on different lines in the system. After a brief trial period,, both locomotives will be given their first scheduled road service on symbol freight trains between Elkhart, Ind., and West Springfield, Mass.

The railroad's program for post-war improvement in its motive power also includes four 6,000-h.p. Diesel-electric passenger locomotives now on order with the Electro-Motive division, and a 6,000-h.p. steam locomotive designed by the railroad's equipment engineering department in collaboration with the American Locomotive Company. Delivery of these locomotives is expected within a year, if materials for their construction are available.

## FREIGHT CARS

The DONORA SOUTHERN is inquiring for 50 hopper cars of 70 tons' capacity.

The SOUTHERN has placed an order for repair parts for 1,487 50-ton steel low-side gondola cars with the Pullman-Standard Car Manufacturing Company.

## SIGNALING

THE ATCHISON, TOPEKA & SANTA FE has awarded a contract to the Union Switch & Signal Co., for signal materials for an installation of a centralized traffic control between Melrose, N. M., and Joffre, a distance of 95 miles. The order includes all necessary relays, M-22A electric switch machines, T-21 switch operating movements with SL-21A electric locks, U-5 circuit controllers and H-5 searchlight signals, all of which are to be controlled from a C.T.C. machine located at Clovis, N. M., operating a code line with two carrier sections and telephone communication throughout.

The PERE MARQUETTE has placed an order with the Union Switch & Signal Co. for the material required for the rehabilitation of a mechanical interlocking at Delray, Mich., this being a joint plant with the New York Central, the Wabash, and the Pennsylvania. The order covers a new electro-mechanical machine involving a 36-lever S. & F. frame with a 20-lever S-8 electrical frame superimposed thereon and includes style H-2 searchlight signal units for high and dwarf signals, with necessary relays, rectifiers, transformers, switch circuit controllers, and mechanical interlocking fittings. The installation work will be carried out by the railway company's regular construction forces.

# Supply Trade

The **Caterpillar Tractor Company** has been awarded a white star to add to its Army-Navy "E" flag for continued production achievement.

The **A. T. Herr Supply Company** Denver, Col., has been appointed sales representative for railroad equipment in that territory by the **Whiting Corporation**.

**A. R. Teifeld,** formerly with the American Steel & Wire Co., has been appointed advertising manager for the **Copperweld Steel Company.**

**Howard M. Givens, Jr.,** has been appointed manager of bar steel sales for the **Midvale Company** with headquarters in Philadelphia, Pa.

**Theodore C. Monk,** who joined the lamp division of the **Westinghouse Electric & Manufacturing Co.** as a clerk in 1920, has been appointed assistant to the manager. He was formerly assistant division auditor.

**Charles A. Benz,** manager of the Railroad divisions of the **Chicago Malleable Castings Company,** and its subsidiary, the Allied Steel Castings Company, has been promoted to general sales manager of both companies, with headquarters as before at Chicago.

**G. M. Dennis** has been appointed manager of the Philadelphia, Pa., district office of the **Whiting Corporation.** Mr. Dennis was graduated from Cornell University. He has been with Whiting for over 15 years in sales and engineering work and was formerly on the staff of the Chicago district office.

**Stuart F. Brown,** who has been in charge of the priorities department of the **American Brake Shoe Company** since June, 1941, has been appointed director of exports to succeed **John W. DeLind, Jr.,** who has been appointed export manager of the **Crosley Corporation.** Mr. Brown was graduated from Yale University. Before joining Brake Shoe, he was associated with Meinhard Greeff & Co., the manufacturing division of Marshall Field & Co., and the Kellogg Company.

**William Blackie,** who joined the **Caterpillar Tractor Company** as comptroller in May, 1939 and **William J. McBrian,** treasurer, have been appointed vice-presidents of the company. **William H. Franklin,** assistant comptroller, has been appointed comptroller to succeed Mr. Blackie and **Edward W. Jackson,** assistant to the president, has been appointed general parts manager to succeed **L. G. Morgan,** who recently resigned that post to take charge of parts department activities on the Pacific coast.

**The Pullman Standard Car Manufacturing Company** has scheduled sharp increases in the production of heavy artillery which has been effective in establishing invasion beachheads, according to B. J.



*News Department continued on next left-hand page*

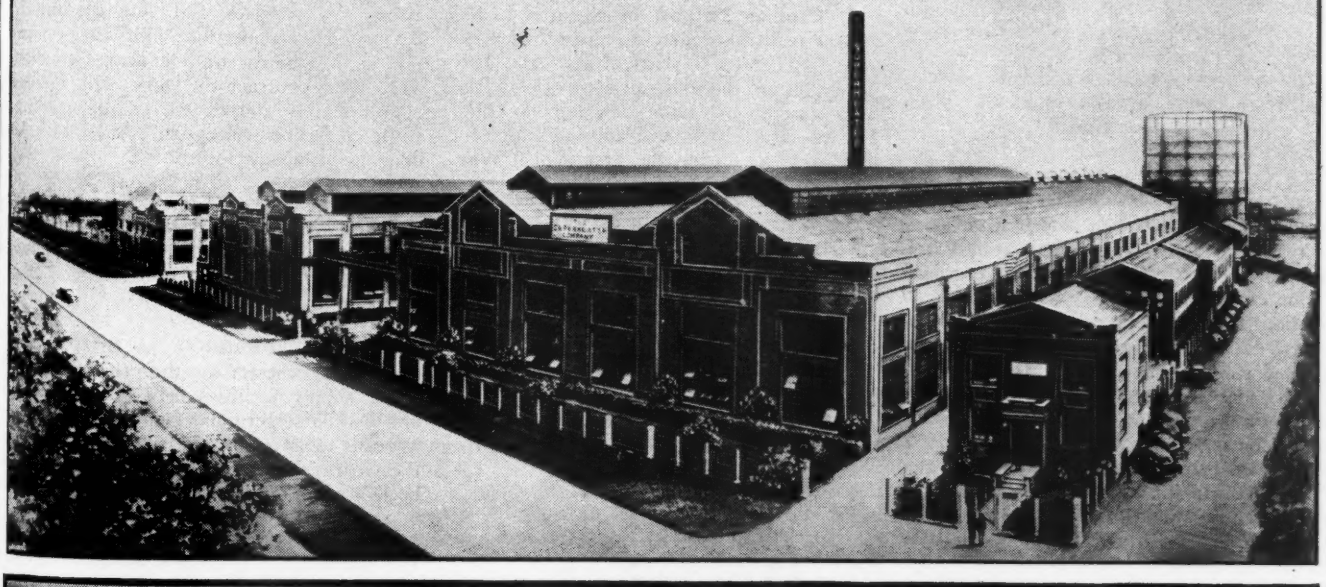
# *Wherever Steam Is Used For Power Elesco Superheaters Will Be Found*

# 6,627

**Elesco Superheaters were ordered in North America during 1943 for:**

**LOCOMOTIVE**
**STATIONARY**
**MARINE**
**OIL FIELD, AND**
**MISCELLANEOUS BOILERS**

***Elesco* is the World's Standard**



SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE
**SUPERHEATER**
COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Blvd., CHICAGO
• • •
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

Trautman, acting works manager. In the next few months its Hammond, Ind., plant will accelerate its rate of construction as much as 100 per cent in certain items. Several hundred additional war workers will be employed.

Not only is the plant enlarging its heavy artillery production for the Army but it is also getting ready to start work later this year on a huge order for large-size anti-aircraft shells for the Navy, Mr. Trautman reported.

Discussing the manufacture of big guns which are urgently needed in invaded territory, Mr. Trautman said, "We have been asked by the Army to increase materially our rate of production on 155 mm. guns and to continue producing at capacity rate the mammoth six-wheeled transport wagons for 240 mm. guns. In addition, we will begin next month the building of carriages for another heavy gun."

In addition to these weapons, the company at present is also making three-inch gun carriages, 81 mm. invasion mortars, 105 mm. Howitzer carriages and 155 mm. shells.

**S. F. Udstad** has returned to the **American Car & Foundry Co.** as assistant to the general mechanical engineer with head-

**S. F. Udstad**

quarters at Berwick, Pa., after an absence of two years, during which he was assistant chief of the rolling stock section, transportation equipment division of the War Production Board. Following service in the army during the first World War, Mr. Udstad was graduated from Missouri University in 1922 with a degree in mechanical engineering. He was appointed assistant city engineer at St. Charles, Mo., in 1922 and from 1923 to 1924 worked with the Moreno-Burkham Construction Company in St. Louis, Mo. He joined the American Car & Foundry Co. in St. Charles in 1924 as car draftsman and was transferred to the general engineering office at Berwick in 1932, assigned to calculations of stress and strain, railroad car development division. He was promoted to assistant mechanical engineer in charge of passenger cars in April, 1938.

## OBITUARY

**Albert H. Armstrong,** retired General Electric Company engineer widely known for his work in railroad electrification, died May 31. He was 73 years of age. Mr. Armstrong was graduated from the Worcester Polytechnic Institute in 1891 with a degree in electrical engineering and began his career as a member of the

**Albert H. Armstrong**

student engineering course of the Thomson-Houston Electric Company, Lynn, Mass. When General Electric was organized through the merger of Thomson-Houston and the Edison Electric Company in 1892, he was moved to Schenectady, N. Y. He was transferred to the engineering department in 1894 and three years later joined the railway engineering department. He subsequently was appointed assistant engineer of the railway engineering department, and in June of 1929 was appointed consulting engineer of the transportation engineering department. He retired November 1, 1930.

**J. Thomas Talbot,** an executive of the American Brake Shoe Company, died on June 6. He was 47 years of age. Mr. Talbot began his career as an apprentice in the Mt. Clare shops of the Baltimore & Ohio. He was attached to the railroad engineers unit overseas during the first World War.

**J. Thomas Talbot**

He joined the sales department of the American Brake Shoe Company as inspector in June, 1920, and was appointed sales representative covering the southeast in January, 1922. He returned to New York in 1935 and was appointed assistant vice-president of the Brake Shoe & Castings division in January, 1937. He was appointed vice-president in charge of sales for both the Brake Shoe & Castings and the Southern Wheel divisions in September, 1940, and elected vice-president and a director of the Dominion Brake Shoe Company, Ltd., in January, 1944. Mr. Talbot has been an active member of the New York Railroad Club since 1936 and was chairman of the club's annual dinner in 1942. He was currently chairman of the railway supply division of the Greater New York Fund.

**Donald Symington,** president of the McConway & Torley Corporation, whose death on May 22 was reported in the *Railway Age* of May 27, was born in Baltimore, Md., in 1882. After attending McCabe University School and Amherst College, he joined the T. H. Symington Company as sales representative in Chicago in 1905. He was a captain in the first world war and served in France as chief munitions officer of the first army, American Expeditionary Force. He joined McConway & Torley in 1931.

# Construction

ATCHISON, TOPEKA & SANTA FE.—This road has received the approval of the War Production Board for the allocation of materials for the construction at Barstow, Cal., of a Diesel locomotive servicing plant and repair shop.

ATCHISON, TOPEKA & SANTA FE.—This road has awarded a contract to Winston Bros., Los Angeles, Cal., for grading to be done in connection with the relocation of a segment of line near Canadian, Tex. The contractor's work will involve approximately 200,000 cu. yd. of grading, while the line relocation work will be done by company forces.

ATLANTIC COAST LINE.—This company has authorized the construction of track facilities at Dade City, Fla., at an estimated cost of $57,000, and at High Springs, Fla., at an estimated cost of $36,000.

BALTIMORE & OHIO.—The B. & O. has awarded a contract for the construction of water supply facilities between Donaldson and its engine terminal facilities at Cowen, W. Va., at an estimated cost of $75,000, to the George F. Hazelwood Company, Cumberland, Md.

CANADIAN NATIONAL.—The Dominion Department of Public Works has awarded a contract, amounting to $90,000, to the Campbell Construction Company, Vancouver, B. C., for the replacement of the southeast trestle approach to a bridge of this company at New Westminster, B. C.

CHESAPEAKE & OHIO-NORFOLK & WESTERN.—Following the petition of the Chesapeake & Ohio and its subsidiary, the Levisa River, for further consideration of the



*News Department continued on next left-hand page*

# *He* won't dodge this-

# Don't *you* dodge this!

**The kid'll** be right there when his C. O. finally gives the signal . . .

There'll be no time to think of better things to do with his life. THE KID'S IN IT FOR KEEPS—giving all he's got, *now!*

We've got to do the same. This is the time for us to throw in everything *we've* got.

This is the time to dig out that *extra* hundred bucks and spend it for Invasion Bonds.

Or make it $200. Or $1000. Or $1,000,000 if you can. There's no ceiling on this one!

The 5th War Loan is the biggest, the most vitally important financial effort of this whole War!

5TH WAR LOAN

## *Back the Attack!* - BUY MORE THAN BEFORE

**AMERICAN LOCOMOTIVE COMPANY**

*This is an official U. S. Treasury advertisement—prepared under the auspices of Treasury Department and War Advertising Council*

report and order of Division 4 of the Interstate Commerce Commission authorizing the Norfolk & Western to construct a 10.74-mile extension along the Levisa river and a tributary thereof, Commissioner Porter has extended the effective date of the order to July 13. The division's findings were noted in *Railway Age* of May 13, page 919. The protestants asserted that the commission lacked authority to amend or recall a certificate of authority to construct, once it was granted, and on that ground objected to its modification of the authority earlier granted the Levisa River to construct a line in substantially the same location as a part of the just-approved N. & W. extension.

FLORIDA EAST COAST.—This road has applied to the Interstate Commerce Commission for authority to construct a 30-mile line from a point near Okeechobee, Fla., to Fort Pierce, to afford it a shorter connection to its main line from points served by the southern end of its existing branch line extending south from Maytown.

NEW YORK CENTRAL.—This railroad has awarded a contract for the construction of a bunk house and lunchroom, one mile east of Suspension Bridge, N. Y., to the Walter S. Johnson Building Company of Niagara Falls, N. Y.

NORTHERN PACIFIC.—This road has awarded a contract, amounting to $150,000, to Carl O. Bolander & Sons, Minneapolis, Minn., for grading work in connection with a line change of about 2½ miles near Cushing, Minn., which, when completed, will shorten the line approximately 1000 ft. and will eliminate 94 deg. of curvature.

PENNSYLVANIA.—This railroad plans to lay additional tracks and make other improvements to the passenger car repair facilities at its Sunnyside yard, Long Island, N. Y. The additional facilities, which are required for the handling of a largely increased number of cars, will include the laying of 425 ft. of car repair track, installation of an additional drop pit with pneumatic jack for removing and replacing wheels under passenger cars, and the erection of a crane to handle wheels from the drop pit track. The yard now has facilities for repairing 6,200 cars annually, but increased traffic during the first four months of this year has made it necessary for the railroad to send 482 cars for repair to the Greenville car shops in Jersey City, N. J. With the completion of the additional facilities, all passenger car repair work will be done at the Sunnyside yard.

READING.—This company has awarded a contract for the construction of coaling station facilities at Gordon, Pa., at an estimated cost of $33,330, to the Rose & White Co. of Chicago.

TEXAS & PACIFIC.—This road has awarded a contract, amounting to $40,000, to Robert E. McKee, Dallas, Tex., for the construction of a garage repair shop and storeroom at Dallas.

# Financial

ARKANSAS.—*R. F. C. Loan.*—This road has applied to the Interstate Commerce Commission for authority to borrow from the Reconstruction Finance Corporation the funds necessary to complete reconstruction of its line from Gould, Ark., to Star City, 17.8 miles.

BALTIMORE & OHIO.—*Accepts Equipment Bid.*—The B. & O. has accepted a bid by the Marine Trust Company of Buffalo, N. Y., and the Marine Midland Trust Company of New York, of an interest rate of 1.87 per cent on $1,200,000 of equipment notes, series D, payable in 40 equal quarterly installments. The notes will be issued subject to the approval of the Interstate Commerce Commission in connection with the railroad's purchase of 500 50-ton steel hopper cars to be built by the Bethlehem Steel Company.

BALTIMORE & OHIO.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $1,200,000 of series B promissory notes in evidence of, but not in payment for, the unpaid portion of the purchase price of 500 50-ton hopper cars to be bought under a conditional sale agreement from the Bethlehem Steel Co. The issue has been sold to the Girard Trust Co. at par, to bear interest at 1⅝ per cent.

CENTRAL OF GEORGIA.—*Promissory Notes.*—This road has applied to the Interstate Commerce Commission for authority to issue $655,120 of promissory notes in evidence of the deferred payments on the purchase price of 450 50-ton box cars bought under a conditional sales agreement with the American Car & Foundry Co.

CENTRAL OF NEW JERSEY.—*Equipment Certificates Awarded.*—On June 8 a syndicate headed by Halsey, Stuart & Co. offered for sale to the public a $3,720,000 equipment trust issue of the Central of New Jersey, at prices to yield from 0.95 to 2.50 per cent according to maturity. Halsey, Stuart and associates bid 99.76 for the issue which is dated June 15, 1944, and matures in 15 equal annual installments beginning in 1945. (Previous item in *Railway Age* of June 3, page 1094).

CHICAGO & NORTH WESTERN.—*Annual Report.*—The 1943 annual statement of this road shows a net income, after interest and other charges, of $26,149,889, as compared with a net income of $9,964,239, in 1942. Selected income items follow:

| | 1943 | Increase or Decrease Compared With 1942 |
|---|---|---|
| Average Mileage Operated | 8,101 | –113 |
| RAILWAY OPERATING REVENUES | $161,014,173 | +$22,619,154 |
| Maintenance of way | 23,194,114 | +4,923,816 |
| Maintenance of equipment | 28,132,261 | +4,373,566 |
| Transportation | 50,804,228 | +5,591,182 |
| TOTAL OPERATING EXPENSES | 110,004,866 | +15,663,063 |
| Operating ratio | 68.3 | +.1 |
| NET REVENUE FROM OPERATIONS | 51,009,307 | +6,956,091 |
| Railway tax accruals | 9,553,481 | –7,586,137 |
| Equipment rents—Net | 468,546 | –1,311,901 |
| Joint facility rents—Net | 195,533 | +2,381 |
| NET RAILWAY OPERATING INCOME | 40,791,747 | +15,851,748 |
| Total other income | 1,847,031 | +193,034 |
| TOTAL INCOME | 42,638,778 | +16,044,782 |
| Rent for leased roads | 663 | ..... |
| Interest on funded debt | *16,266,004 | –102,206 |
| TOTAL FIXED CHARGES | 16,276,370 | –164,384 |
| NET INCOME TRANSFERRED TO EARNED SURPLUS | 26,149,889 | +16,185,650 |

* Includes interest accrued on matured bonds and notes.

DELAWARE, LACKAWANNA & WESTERN.—*Merger.*—This company and the Lackawanna of New Jersey have applied to the Interstate Commerce Commission for authority for the latter to be merged into the D. L. & W., which road now operates the New Jersey company's property under lease. The transaction is one of several in which the Lackawanna is undertaking to simplify its system corporate structure, acquire ownership of essential segments of line now operated under lease, and clear up disputed tax liabilities now in litigation. In connection with the proposed merger, the Lackawanna would issue certificates of deposit for the acquisition of 105,800 shares of the New Jersey company's stock and $10,580,000 of Lackawanna of New Jersey division first mortgage bonds.

ILLINOIS CENTRAL.—*Modification of Lease.*—Division 4 of the Interstate Commerce Commission has approved a modification of the terms of the lease under which this road's subsidiary, the Yazoo & Mississippi Valley, operates the Baton Rouge, Hammond & Eastern, to give effect to the commission's current depreciation accounting requirements.

NEW YORK CENTRAL.—*Annual Report.*—In his annual report for 1943, F. E. Williamson, president, stated that during the year a reduction of $25,770,184 was effected in the amount of capital obligations of the company and its lessor companies outstanding in the hands of the public—including amounts payable to New York State on account of grade crossing eliminations, and amounts payable in respect of equipment acquired under railroad equipment agreements assigned to banks. At the end of the year, the total of such obligations was $891,967,063, compared with $917,737,246 at the end of 1942, and $1,108,807,952 at the end of 1932. Interest charges computed on an annual basis, on the obligations outstanding at the end of 1943, were $12,323,586 less than on the obligations outstanding at the end of 1932, a reduction of 26 per cent. Excerpts from the annual report appeared in *Railway Age* of June 10, page 1133.

## Average Prices Stocks and Bonds

| | June 13 | Last week | Last year |
|---|---|---|---|
| Average price of 20 representative railway stocks.. | 40.58 | 40.37 | 36.79 |
| Average price of 20 representative railway bonds.. | 88.50 | 88.72 | 77.47 |

# Abandonments

CHICAGO, ATTICA & SOUTHERN.—In a proposed report Examiner J. S. Prichard has recommended that the Interstate Commerce Commission deny this road's application for authority to abandon its line from Veedersburg, Ind., to Morocco, 59.1 miles, without prejudice to a renewal of the application after the end of the war. Opposition to the application was offered by the War Department, the War Food Administration, and shippers and receivers of freight.

The line involved is the surviving part of a line formerly operated as the Coal Railway division of the Chicago & Eastern Illinois. Although its abandonment as to interstate and foreign commerce was authorized in 1922, that line was acquired by the Chicago, Attica & Southern, which continued to operate it until, in 1942, that company's receiver was instructed by the court to sell its property to the highest bidder, whose interest was subsequently assigned to Dulien Steel Products, Inc., a firm dealing in steel scrap and second-hand materials. This owner, having obtained I. C. C. authority to abandon and scrap segments at the northern and southern ends of the line, contemplated similar treatment of the remaining portion, according to the examiner. In view of the apparent need for continued operation of this part of the line under wartime conditions, and because the evidence was "far from conclusive" that it could not be operated at a profit "if the Dulien company would give the necessary attention to more efficient and economical operation," the examiner did not recommend approval of the abandonment application.

FLORIDA EAST COAST.—This road has applied to the Interstate Commerce Commission for authority to abandon a 136.1-mile segment of branch line from Maytown, Fla., to Mile Post 152.5 near Okeechobee. Construction of a new line from M. P. 152.5 to the F. E. C. main line at Fort Pierce is contemplated, and the abandonment would be made effective when the alternate line is opened. Because the line from Maytown through Okeechobee is of light construction, it is not suitable for present traffic requirements, it was indicated, nor is it an important producer of traffic. On the other hand, a substantial volume of business is produced at stations on the branch south of Okeechobee, and it is planned to bring this to the main line at Fort Pierce, and so to avoid the long branch line movement now involved.

GULF, MOBILE & OHIO.—This company has applied to the Interstate Commerce Commission for authority to abandon a branch from Muldon, Miss., to Aberdeen, 8.77 miles.

SEABOARD AIR LINE.—This road has applied to the Interstate Commerce Commission for authority to abandon a branch from Tredegar, Ala., to Jacksonville, 3.26 miles.

# Railway Officers

## EXECUTIVE

**A. Everett McKeithan,** executive assistant in the office of the vice-president of the Southern, at Atlanta, Ga., has been appointed assistant to the vice-president of that road, with the same headquarters. Mr. McKeithan, who was born at Campville, Fla., on June 21, 1898, entered railway service on June 1, 1917, with the Atlantic Coast Line at Wilmington, N. C. After serving in the general freight office and as secretary to the passenger traffic manager for several months, he went into the U. S. Army on July 18, 1918. Mr. McKeithan returned to railroad service on April 1, 1920, as secretary to the chairman of the Southeastern Passenger Association at Atlanta, later serving as rate clerk. He went with the Southern on October 11, 1926, as secretary to vice-president at Atlanta, becoming executive assistant in the office of the vice-president, same headquarters, on March 1, 1937. This position he held until his recent promotion to the post of assistant to the vice-president.

**A. Everett McKeithan**

**O. Trahan,** traffic manager of the Tremont and Gulf, with headquarters at Winnfield, La., has been elected vice-president and traffic manager, with the same headquarters.

**George E. Schnitzer,** vice-president of the Kansas City Southern and the Louisiana & Arkansas, with headquarters at Kansas City, Mo., has been appointed assistant vice-president, with the same headquarters.

**James A. Jones,** whose appointment as assistant to vice-president in charge of communications of the Southern, was announced in the *Railway Age* of June 3, was born in North Carolina, and studied electrical engineering at Washington Electrical School, Washington, D. C. Mr. Jones served as wire chief and manager of the Southern's relay telegraph offices at Danville, Va., prior to becoming chief clerk in the office of the superintendent of telegraph at Washington in 1909. He was promoted to superintendent of telegraph in 1916, and on February 1, 1924, he became general superintendent of telegraph. On August 1, 1934, his title was changed to general superintendent of telegraph and telephone. This position he held until his new appointment as assistant to vice-president of communications. Mr. Jones represents the railroad industry on the telegraph and telephone committee of the government's Board of War Communications. He has served as a member of the committee of direction, telegraph and telephone section, Association of American Railroads, for a number of years, and since 1934 has been chairman of the outside plant committee, the Section's principal committee. During World War I, Mr. Jones was on the staff of the southern regional director of railroads, having charge of the telephone and telegraph departments of the various roads.

**James A. Jones**

**C. S. Woodward,** secretary of the Cedar Rapids & Iowa City, with headquarters at Cedar Rapids, Iowa, has been elected vice-president and secretary, with the same headquarters.

## FINANCIAL, LEGAL AND ACCOUNTING

**George W. Beeman** has been appointed general auditor of the McCloud River, with headquarters at McCloud, Calif.

**A. J. Van Huss** has been appointed general claim agent of the Detroit, Toledo & Ironton, with headquarters at Dearborn, Mich.

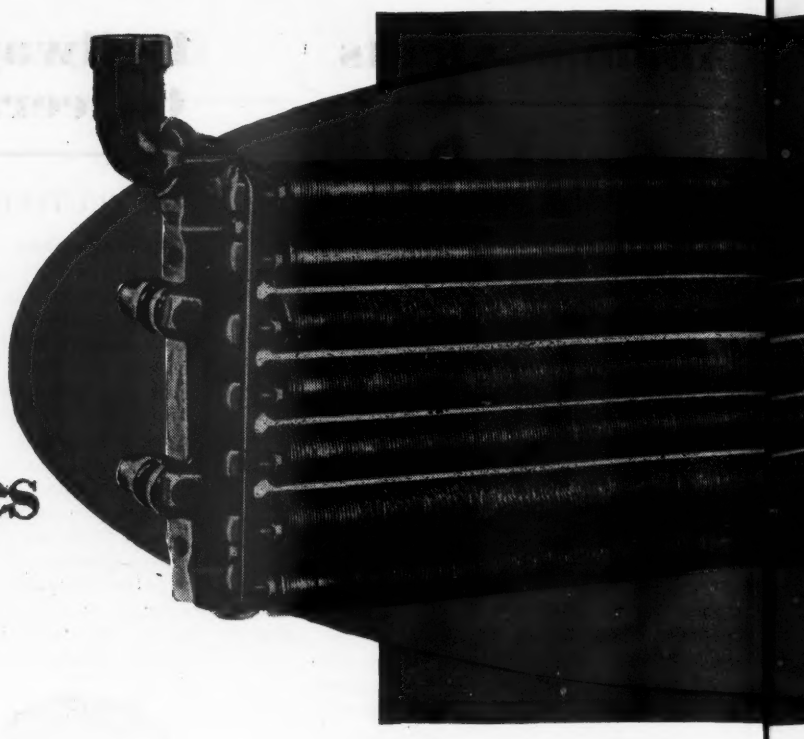
**H. W. White,** assistant treasurer of the Cedar Rapids & Iowa City, with headquarters at Cedar Rapids, Iowa, has been promoted to treasurer, with the same headquarters, succeeding **Carl B. Myers,** who has resigned.

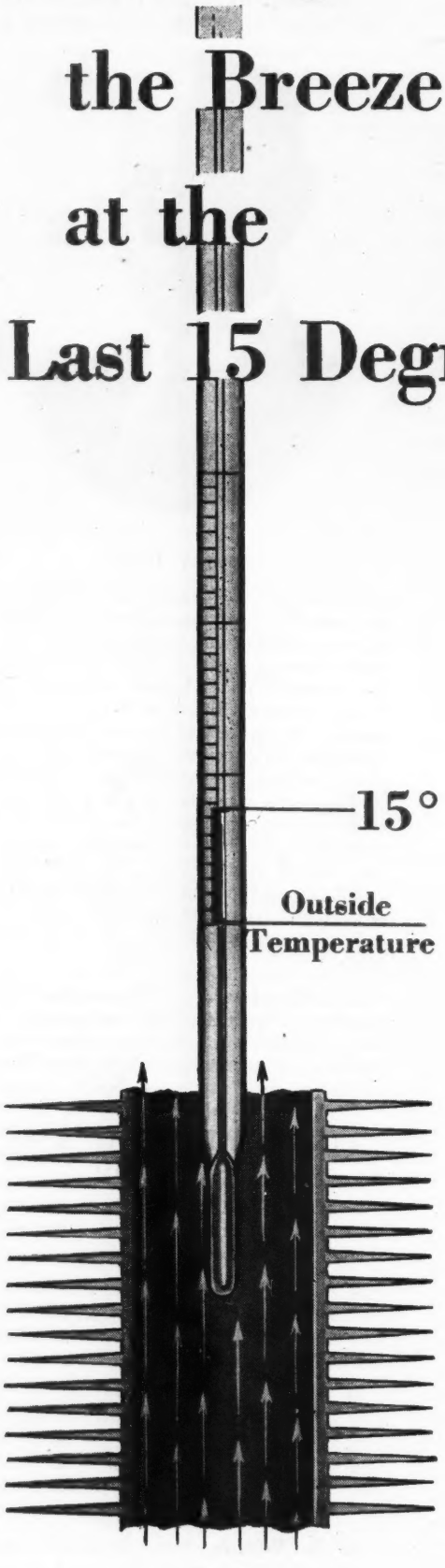
**E. H. Wilson,** claim adjuster of the Gulf, Colorado & Santa Fe (part of the Santa Fe System), with headquarters at Cleburne, Tex., has been advanced to assistant general claim agent, with headquarters at Galveston, Tex., succeeding **A. V. Tate,** whose promotion to general claim agent, with headquarters at Gal-



*News Department continued on second left-hand page*

# Directing the Breeze at the Last 15 Degrees





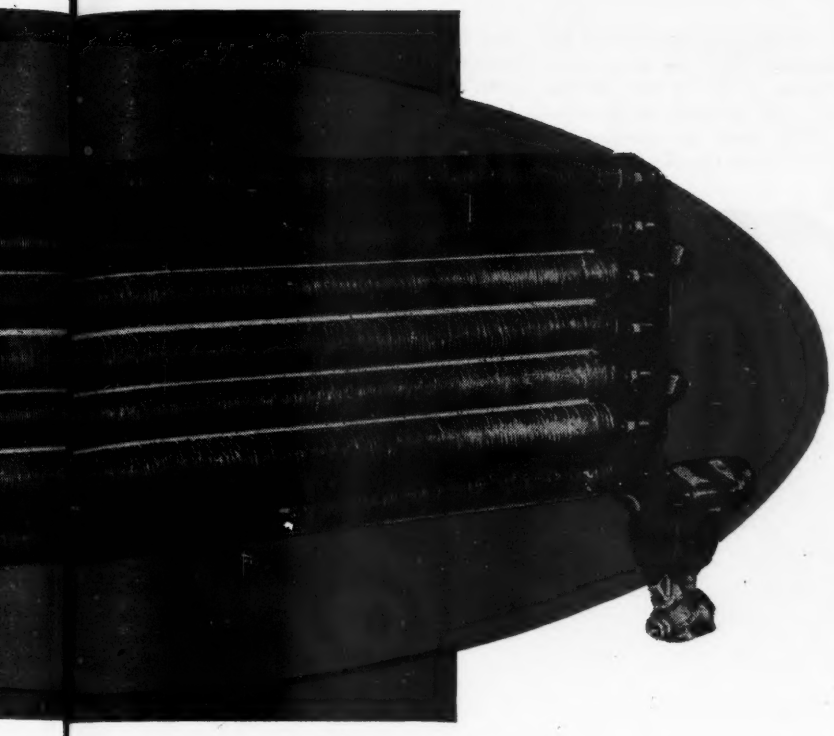

THE efficiency of an Aftercooler is gaged by its ability to-cool compressed air to outside (atmospheric) temperature.

Most of the heat, generated by compressing air, is radiated in transit between the compressor discharge and the outlet of the first main reservoir. On normal installations the air is thus cooled to within fifteen degrees of outside temperature.

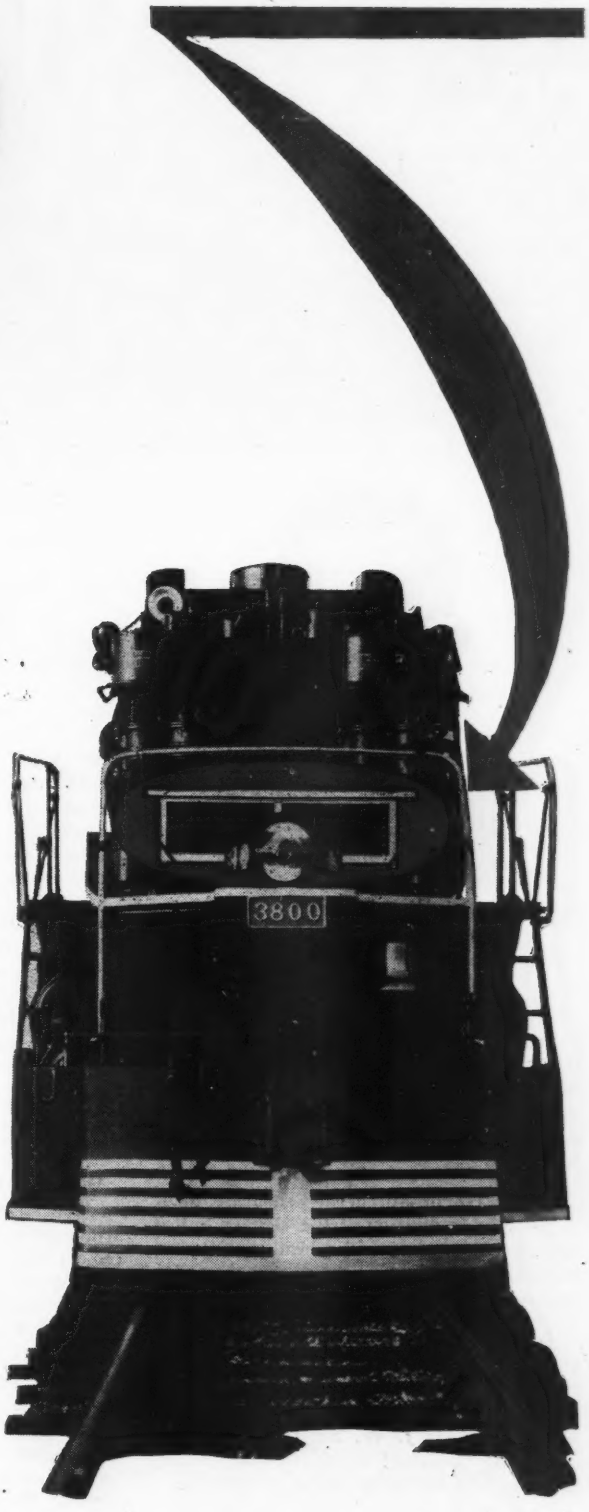
However, it is this last fifteen degrees that must be lured away. Small as it is, this heat can carry the harmful quantity of vapor to the brake system, even in the most arid climate.

By strategic location of a large, efficient radiating area, the Aftercooler *directs the breeze at the last fifteen degrees* and precipitates the moisture that might later freeze or saturate a single valve, and thus impair the brake functions of the train.

**Westinghouse Air Brake**



# Air Stream Radiation




## Compact Radiating Area

Finned copper tubing consolidates the largest practicable radiating area into the smallest possible space.

The compact unit comprises three times as much radiating surface as provided by iron pipe, plus the advantages of location, accessibility, and less likelihood of internal frosting.

## Air Stream Radiation

Front end location exposes Aftercooler to both frontal and lateral air streams.

Full benefit of prevailing winds is gained, regardless of their direction.

Fins are scientifically spaced to avoid hot air pocketing.

Remoteness from boiler eliminates possibility of re-heating.

**Company · Wilmerding. Pa.**

veston, was reported in the *Railway Age* of May 27.

## OPERATING

**Emil Moore** has been appointed trainmaster, Hudson and Mohawk divisions, of the New York Central.

**Walter L. Mustard** has been named general superintendent stockyards, New York Central, with headquarters at the East Buffalo, N. Y., stockyards.

**W. M. Taylor,** acting superintendent, has been appointed permanent superintendent of the Beach division, Norfolk Southern, with headquarters at Norfolk, Va. Mr. Taylor was born at Lynchburg, Va., on July 6, 1889. He entered the service of the Southern at Clarion, Va., as a telegraph operator on June 1, 1907, transferring to the Baltimore & Ohio on July 7, 1908. On September 12, 1912, Mr. Taylor joined the Seaboard Air Line as telegraph operator, going with the United States Naval Yard at Norfolk in September, 1918, as yardmaster. He joined the Norfolk Southern on May 15, 1921, as train dispatcher, being

**W. M. Taylor**

promoted to trainmaster on June 1, 1934. He was named acting superintendent on August 4 last year, serving in that capacity until his present appointment to the position of superintendent, Beach division, at Norfolk.

**E. B. Herdman,** acting superintendent of the Pueblo division of the Denver & Rio Grande Western, with headquarters at Pueblo, Colo., has been promoted to superintendent of that division.

**John White,** assistant to general manager of the Seaboard Air Line, has been appointed superintendent, Georgia division, with headquarters at Atlanta, Ga. Mr. White succeeds **J. W. Smith,** whose promotion to assistant chief engineer is announced elsewhere in these columns.

**Edwin D. Jones,** whose promotion to general superintendent of the Minneapolis, St. Paul & Sault Ste. Marie (Soo Line), with headquarters at Minneapolis, Minn., was reported in the *Railway Age* of June 10, was born at St. Paul, Minn., on January 9, 1898, and entered railway service in June, 1916, as a rodman of the Soo at St. Paul. In November, 1917, he went with the Great Northern where he held several minor positions in the operating department until August, 1920, when he returned to the Soo as statistician to the vice-president,

**Edwin D. Jones**

with headquarters at Minneapolis. In January, 1923, he was promoted to inspector of transportation, with the same headquarters, and one year later he was advanced to trainmaster of the Wisconsin and Peninsular division at Minneapolis. In the same year Mr. Jones was transferred to the Fond du Lac division, with headquarters at Fond du Lac, Wis., and in April, 1929, he was promoted to superintendent of the Stevens Point division, with headquarters at Stevens Point, Wis. In 1931 he was transferred to the Duluth-Superior division, with headquarters at Superior, Wis., and in November, 1937, to the Minneapolis-Duluth division, with the same headquarters, remaining in that position until his new appointment.

**E. W. Davis,** night trainmaster of the Columbus division of the Pennsylvania, with headquarters at Columbus, Ohio, has been promoted to trainmaster of the Chicago Terminal division, with headquarters at Chicago, succeeding **Jacob D. Fuchs,** whose promotion to superintendent of the Indianapolis division, with headquarters at Indianapolis, Ind., was reported in the *Railway Age* of May 20.

**William M. Christel,** whose promotion to superintendent of transportation of the Minneapolis, St. Paul & Sault Ste. Marie (Soo Line), with headquarters at Minneapolis, Minn., was reported in the *Railway Age* of June 10, was born at St. Nazianz, Wis., on December 20, 1890, and entered railway service on September 6, 1906, with the Wisconsin Central (now part of the Soo Line), as a station helper. One year later he was appointed a telegraph operator of the Soo and in 1914 he was advanced to division car distributor, with headquarters at Fond du Lac, Wis., subsequently serving at that point as train dispatcher and chief train dispatcher. In 1938, when the Fond du Lac and the Stevens Point divisions were consolidated, Mr. Christel was promoted to transportation assistant to the general superintendent, with headquarters at Minneapolis, and on September 1, 1939, he was further advanced to assistant superintendent of the Minneapolis-Duluth division, with the same headquarters. On February 1, 1942, he was promoted to assistant to the general superintendent at Minneapolis, the position he held at the time of his new appointment.

## TRAFFIC

**F. H. Cummings,** general coal freight agent of the Chesapeake & Ohio, with headquarters at Cincinnati, Ohio, has been appointed assistant coal traffic manager, with the same headquarters, a change of title. **J. B. Young** and **F. A. Harmon,** assistant general coal freight agents, with headquarters respectively at Richmond, Va., and Chicago, have been appointed assistant coal traffic managers, with the same headquarters, also changes of titles.

**Edward A. Ryder,** whose appointment as assistant to the general freight traffic manager of the Canadian National at Montreal, Que., was announced in the *Railway Age* of June 10, was born at Havelock, N. B., in 1899 and served two years with

**Edward A. Ryder**

the Canadian forces. On demobilization he joined the operating staff of the Intercolonial (Canadian Government), and, transferring to Montreal after amalgamation of that road and the Canadian National, he served successively in the rate and tariff bureau, foreign freight, and general freight traffic manager's office. In 1936 he was appointed chief clerk to the traffic vice-president, a position which he held until his present promotion to the capacity of assistant to the general freight traffic manager, with headquarters at Montreal.

**E. S. Hiner** has been appointed assistant traffic manager of the Detroit & Toledo Shore Line, with headquarters at Detroit, Mich.

**W. C. Wilander,** passenger agent of the Chicago & North Western, with headquarters at Los Angeles, Calif., has been promoted to district passenger agent, with the same headquarters.

**J. R. Mills,** assistant to the vice-president of the Kansas City Southern and the



*News Department continued on next left-hand page*

# HSGI wear-resisting PARTS

## *Long Mileage Parts*

ANY material which gives longer service between renewals contributes to the all-out war-time effort of the railroads.

Wear-resisting parts made from HUNT-SPILLER *Air Furnace* GUN IRON are helping the railroads to obtain maximum revenue mileage from their locomotives.

Performance records from railroads using HSGI parts show unusual high mileage between replacements, increased efficiency and high availability. It stands to reason that the long mileage built into HSGI parts contributes greatly to the economy of locomotive operation.

**HSGI**
**Reg. U.S. Trade Mark**
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings
***Finished Parts***
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

**HUNT-SPILLER MFG. CORPORATION**
V. W. Ellet, *President* — E. J. Fuller, *Vice-Pres. & Gen. Mgr.*

*Office & Works*
383 Dorchester Ave. — South Boston 27, Mass.

Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
Export Agent for Latin America:
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

# HUNT-SPILLER GUN IRON
*Air Furnace*

Louisiana & Arkansas, with headquarters at Kansas City, Mo., has been appointed freight traffic manager, with the same headquarters.

**John A. Parsons** has been appointed coal freight agent of the Louisville & Nashville, with headquarters at Louisville, Ky.

**T. P. Axton** has been appointed agricultural agent for the Indiana and Illinois Line of the Baltimore & Ohio, with headquarters at Indianapolis, Ind.

**R. F. O'Day** has been appointed general freight agent of the Okmulgee Northern, with headquarters at Okmulgee, Okla., succeeding **O. P. Smith,** who has resigned.

**W. Floyd Sayers** has been appointed general agent of the Southern, with headquarters at Gastonia, N. C., succeeding **W. S. Barfield,** who has resigned.

**J. E. Campbell** has been appointed general agent of the Erie, with headquarters at Boston, Mass., to succeed **A. M. Monahan,** who has been furloughed.

## PURCHASES AND STORES

**William W. Shugarts,** whose appointment as assistant stores manager of the Pennsylvania was announced in the *Railway Age* of June 3, was born at Bellwood, Pa., on April 12, 1895. He entered the service of the Pennsylvania on June 2, 1913, as a laborer in the Altoona, Pa., car shops, and after serving as storehouse attendant, clerk and stockman at four different points, he was appointed assistant storekeeper on April 1, 1925. Mr. Shugarts became storekeeper at the Juniata locomotive shops, Altoona, on October 16, 1926, a post which he held for 11 years until his appointment as assistant to the stores manager at Philadelphia, Pa. He was promoted to assistant to the general storekeeper at Philadelphia on June 16, 1938, acting in that capacity until his present promotion to assistant stores manager with those headquarters. During World War I, Mr. Shugarts served in the 117th ammunition train of the famous Rainbow Division, taking part in various defensive and offensive engagements of that command.

## SPECIAL

**Dr. William E. Misher** has been appointed assistant chief surgeon of the Erie, with headquarters at Cleveland, Ohio.

**Christopher James Hanratty** has retired as assistant manager of the press bureau of the Canadian National. Mr. Hanratty, who was born at Dublin, Ireland, attended Montreal, Que., schools, and did newspaper work on the Montreal Star and the Montreal Gazette. He served in France with Dominion's overseas forces from October, 1916, to July, 1918, when he was invalided back to Canada. He then served with the Department of Information at Ottawa, Ont., and on being demobilized in 1919, was in charge of publicity for the Department of Soldiers' Civil Retirement. He returned to newspaper work in 1920, joining the publicity department of the Canadian National at Montreal four years later. In 1929 Mr. Hanratty was transferred to London in charge of European publicity and advertising for the Canadian National, and in 1934 he became publicity representative in the central and western territory of the

**Christopher James Hanratty**

United States, with headquarters at Chicago. He returned to Montreal in 1939 as assistant supervisor of press services, later being named assistant manager of the press bureau. Since the outbreak of the war Mr. Hanratty has served as deputy press censor, and later press censor for Canada, a position which he was forced to relinquish for health considerations.

## ENGINEERING & SIGNALING

**J. W. Smith,** superintendent of the Georgia division, Seaboard Air Line, with headquarters at Atlanta, Ga., has been appointed assistant chief engineer at Norfolk, Va. **J. R. Traphoner** has been named assistant to chief engineer with the same headquarters.

**A. M. Harris,** division engineer of the Renovo division of the Pennsylvania, with headquarters at Erie, Pa., has been transferred to the Columbus division, with headquarters at Columbus, Ohio, succeeding **L. G. Walker, Jr.,** whose promotion to superintendent of the Delmarva division, with headquarters at Cape Charles, Va., was reported in the *Railway Age* of May 27.

**A. C. E. Mullen,** whose retirement as district engineer of the New York, New Haven & Hartford with headquarters at Grand Central Terminal, New York, was announced in the *Railway Age* of June 3, was born at New York on October 8, 1882. He attended business college, studied at the City College of New York for two years, and at Columbia University for three years. On June 26, 1905, he entered railway service as rodman of the New York, New Haven & Hartford, becoming inspector the following year and junior assistant engineer in June, 1907. After serving as assistant engineer and assistant location engineer, Mr. Mullen was named general foreman on March 13, 1913. In April, 1914, he was again appointed assistant engineer, becoming pilot in July, 1915. During World War I he was a first lieutenant, Corps Engineers, United States Army, returning to the New York, New Haven & Hartford as assistant engineer on April 2, 1920. He was named to the position of construction engineer on June 16, 1926. On March 1, 1933, Mr. Mullen was appointed district engineer, a capacity which he filled until his retirement.

## OBITUARY

**Byron E. Nevins,** retired master mechanic of the Virginian at Victoria, Va., died on June 9 at Richmond, Va.

**Frederick S. Brown,** who retired in 1940 as mechanical engineer of the Erie, with headquarters at Cleveland, Ohio, died at Meadville, Pa., recently.

**William W. Middleton,** who retired in 1940 as deputy comptroller of the Gulf, Mobile & Ohio, died recently at Mobile, Ala.

**Lee T. Taylor,** division engineer of the Gulf, Colorado & Santa Fe (part of the Santa Fe System), with headquarters at Galveston, Tex., died at a hospital in that city recently.

**William Henry Elliott,** who retired on August 31, 1933, as signal engineer of the New York Central, died on June 3. Mr. Elliott, who was born on August 10, 1863, at Savannah, Ga., was graduated from the University of the South in 1883. The same year he entered railway service with the Central of Georgia as fireman, and joined the Savannah, Florida & Western in 1884 as machinist apprentice. He was in the locomotive test department of the Erie from 1887 until 1890, when he became assistant to mechanical engineer of the Chicago, Milwaukee & St. Paul (now Chicago, Milwaukee, St. Paul & Pacific). In 1893 Mr. Elliott was appointed signal engineer of that road, and on September 1, 1903, he was appointed signal engineer of the New York Central & Hudson River and the New York Central (the former road now being part of the N.Y.C.). This position he held until his retirement in 1933.

**Horace Booth,** who retired in 1940 as general traffic manager of the Missouri Pacific Lines, with headquarters at Houston, Tex., died at his home in that city on May 17. Mr. Booth entered railway service in 1874 as a clerk on the Texas & Pacific at Longview Junction, Tex., later becoming an agent at Forney, Tex. In 1880, he went with the International & Great Northern (now the International-Great Northern, part of the Missouri Pacific system), as a clerk at Longview, Tex., and later served as agent at Henderson, Tex., Tyler, Laredo and Houston, and as general agent at Houston. In 1900, he was promoted to assistant general freight agent and the following year to general freight agent. Mr. Booth was advanced to traffic manager, with headquarters at Houston in 1914, and in 1925 he was promoted to general traffic manager, with the same headquarters, the position he held until his retirement.